

# ANNUAL PUBLIC HEALTH REPORT

OF THE

## PROVINCE OF BIHAR

FOR THE YEAR

1938

AND THE

## ANNUAL VACCINATION REPORT

FOR THE YEAR

1938-39.

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BY

Lt. Col. S. L. MITRA, D.P.H., I.M.S.,

*Director of Public Health, Bihar.*



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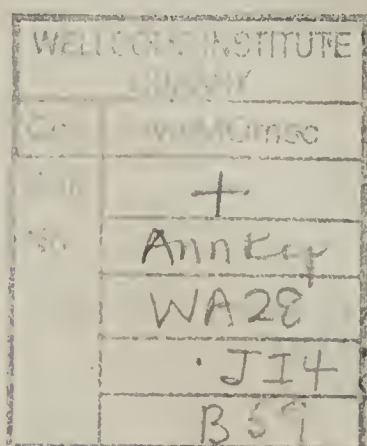
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# PROVINCE OF BIHAR

Scale 1 Inch = 64 Miles







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OF THE

## Province of Bihar for the year 1938.

### CHAPTER I.

#### METEOROLOGY, PRICES OF GRAINS, ETC.

1. *Rainfall*.—The following short account of the meteorological conditions in the Province during the year 1938 is extracted from the report of the Director-General of Observatories :—

The total rainfall in January 0·54" in Bihar and 1·29" in Chota Nagpur. Both mean maximum and minimum temperatures were above normal in Bihar. The mean relative humidity was in excess and the mean cloud amount was above normal in Chota Nagpur.

The total rainfall in February was normal in Bihar and in excess by 0·21" in Chota Nagpur. Both mean maximum and mean minimum temperatures were below normal in Chota Nagpur.

The total rainfall in March was nil, the month having passed dry over Chota Nagpur and Bihar. Both mean maximum and mean minimum temperatures were above normal in Chota Nagpur ; the maximum alone was above normal in Bihar. The mean relative humidity was in defect in Chota Nagpur and Bihar. The mean cloud amount was below normal in Chota Nagpur and Bihar.

The month of April was marked by some noteworthy temperature variations. Low temperatures were experienced by Bihar and Chota Nagpur on the 10th and high temperatures prevailed in Bihar on the 21st. The total rainfall was in defect by 0·49" in Bihar and by 0·74" in Chota Nagpur. Mean relative humidity was in defect in Bihar. Mean cloud amount was above normal in Chota Nagpur and below normal in Bihar.

The total rainfall in May was in moderate excess by 0·95" and 0·81" in Bihar and Chota Nagpur respectively. Maximum temperature was below normal and mean relative humidity was in excess in Chota Nagpur and Bihar.

The monsoon started in June and the total rainfall of the month was in large excess by 4·94" in Bihar. Mean relative humidity was in excess in Chota Nagpur.

The total rainfall in July was in excess in Bihar by 0·66" and in defect by 3·46" in Chota Nagpur. Between 9th and 11th the monsoon was particularly active, in association with a passage of a shallow depression from Bengal northwards through Bihar resulting in some heavy rainfall.

The total rainfall in August was normal in Bihar in defect by 1·36" in Chota Nagpur. Low temperatures prevailed over Bihar between the 9th and 12th.

The total rainfall in September was normal (8·83") in Bihar and in slight to moderate defect in Chota Nagpur.

The total rainfall in October was in defect by 1·50" and 1·30" in Bihar and Chota Nagpur respectively. Unusually warm weather was experienced during the first week of the month. During this period the day temperatures alone were above normal over Bihar. The mean maximum temperature was also above normal in Bihar. The mean relative humidity was in defect in Bihar.



The total rainfall in November in defect by 0·26" and 0·40" in Bihar and Chota Nagpur respectively. The mean relative humidity was in defect in Chota Nagpur and Bihar.

The total rainfall in December was in defect by 0·12" in Bihar and by 0·19" in Chota Nagpur. The mean maximum temperature was normal in Bihar. The mean cloud amount was above normal in Bihar.

The total rainfall during the year in Bihar and Chota Nagpur was 55·13" and 41·59" respectively as against 60·44" and 62·21" respectively in the previous year.

*Statement showing the monthly average price of common rice (cheapest) in the headquarters market of the districts of Bihar for the year 1938.*

District.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
1	2	3	4	5	6	7	8	9	10	11	12	13
	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.	Sr. Ch.
Patna ...	14 4	14 8	14 6	13 10	13 12	13 12	13 10	13 10	13 10	13 8	13 8	13 10
Gaya ...	13 0	13 8	13 0	13 4	14 0	14 0	14 0	13 8	12 4	12 8	12 8	12 8
Shahabad ...	15 0	15 0	15 0	15 0	15 0	15 0	12 12	12 8	15 8	14 8	14 0	14 8
Saran...	13 0	13 8	13 0	13 0	12 8	13 8	13 0	12 8	12 0	12 0	12 0	11 8
Champaran ...	13 0	13 0	13 0	13 0	12 8	12 0	11 8	12 0	12 8	12 12	12 8	13 0
Muzaffarpur ...	12 0	12 0	12 0	12 0	12 0	11 8	11 8	11 4	10 8	10 8	10 8	10 0
Darbhanga ...	12 4	12 8	10 12	12 0	12 0	11 4	11 8	11 0	12 0	11 0	11 0	10 0
Monghyr ...	12 4	12 8	12 4	11 12	12 0	12 0	11 12	11 8	11 12	12 0	11 8	11 0
Bhagalpur ...	13 4	12 12	12 8	12 4	11 0	11 0	10 10	10 8	10 8	10 4	10 4	12 0
Purnea ...	13 0	12 8	11 8	12 0	11 12	11 0	10 12	11 0	12 0	11 4	11 0	12 8
Santal Parganas ...	16 2	14 0	15 8	16 0	15 0	14 0	14 4	14 0	14 12	15 0	16 0	14 0
Hazaribagh ...	14 8	15 0	14 12	14 12	15 0	14 12	14 12	14 8	14 8	14 0	14 4	14 0
Ranohi ...	15 8	16 8	16 4	16 0	16 8	16 0	16 0	14 0	13 0	12 8	16 0	15 8
Palamau ...	15 6	14 8	14 8	15 0	14 12	14 12	14 8	14 8	15 0	15 0	14 0	14 0
Manbhum ...	16 0	16 0	16 0	16 0	16 0	16 0	15 8	14 0	14 8	14 0	13 8	13 8
Singhbhum ...	17 4	17 0	17 8	17 0	17 0	17 0	16 0	13 14	15 4	14 8	15 8	16 0

## CHAPTER II.

### VITAL STATISTICS.

1. The population of the province at the census taken in February 1931 was 32,371,434. This figure has been used to calculate the various ratios in the report.

The mid-year population as ascertained by the natural increase method, i.e., by addition of excess of births over deaths from the 1st July 1937 to 30th June 1938, was 35,073,000 as against 34,684,228 of the previous year. The figure for emigration and immigration is not correctly obtained nor is the method for recording births and deaths free from defect. Every year a large number of labourers emigrate from this province to Bengal and Assam, but their exact number is not definitely available. This figure as stated here cannot, therefore, be regarded as quite accurate.



2. The estimated population for the year under review was 34,706,466 as against 34,372,870 of the previous year. This figure has been calculated on the assumption that the population has increased by arithmetical progression. The following two statements record the estimated population in various age group and also the ratios of births and deaths from the chief diseases calculated on the estimated population of 1938.

#### STATEMENT A.

##### *Population according to age group of the province of Bihar.*

	1		2		3		4		5	
	Under 1 year.		One and under 5 years.		5 and under 10 years.		10 and under 15 years.		15 and under 20 years.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Census, 1921 ...	428,171	430,762	1,242,286	1,359,885	2,379,710	2,288,361	1,839,157	1,512,999	1,218,397	1,124,128
Do. 1931 ...	389,476	396,266	1,996,260	2,110,112	2,330,522	2,129,096	2,005,728	1,767,032	1,322,530	1,361,558
Decennial increase or decrease, 1938.	-38,695	-34,496	+753,974	-750,227	-49,188	-159,265	+166,571	+254,033	+104,133	+237,430
Annual increase or decrease, 1938.	-27,083	-24,150	+527,779	+525,161	-34,433	-111,482	+116,599	+177,821	+72,891	+166,201

6		7		8		9		10	
20 and under 30 years.		30 and under 40 years.		40 and under 50 years.		50 and under 60 years.		60 years and upwards.	
Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
2,238,042	2,509,809	2,119,934	2,208,112	1,473,372	1,458,625	818,288	851,054	655,716	376,508
2,763,352	2,894,276	2,341,958	2,314,501	1,595,753	1,595,753	904,766	913,225	594,542	727,186
+525,310	+384,467	+222,024	+106,389	+122,381	+122,381	+86,478	+62,171	-61,174	-149,322
+367,717	+269,129	+155,414	+74,473	+85,666	+38,269	+60,536	+43,519	-42,819	-104,524

#### STATEMENT B.

Ratio of births and deaths from chief diseases calculated on the estimated population of 1938.

			Male.	Female.	Total.
Births	..	..	16.4	15.7	32.1
Total deaths	..	..	23.1	20.8	22.0
Cholera	..	...	0.4	0.4	0.4
Small-pox	..	..	0.2	0.2	0.2
Plague	..	..	0.04	0.06	0.05
Fevers	..	..	18.6	16.8	17.7
Dysentery and Diarrhoea	..	..	0.1	0.09	0.1
Respiratory disease	..	..	0.1	0.07	0.09

3. *Births.*—The total number of births in this province during 1938, was 1,116,178 (571,091 males and 545,087 females) as compared with 1,100,657 in 1937. This means an increase of 15,521 births or 0.5 per thousand



population during the year over those recorded in the preceding year. The provincial birth-rate for the year 1938 was 34·5 as compared with 34·0 in 1937. The average birth-rate for the last ten years was 33·7.

The statement below gives figures regarding birth-rates in other provinces of India.

Province.					Birth-rate per mille of population, 1938.
Bihar	..	..	..	..	34·48
Orissa	..	..	..	..	33·76
Bengal	..	..	..	..	30·48
United Provinces	..	..	..	..	36·79
Central Provinces	..	..	..	..	43·19
Punjab	..	..	..	..	49·50
Bombay	..	..	..	..	42·22
Madras	..	..	..	..	38·87
Burma	..	..	..	..	34·59
Assam	..	..	..	..	29·92
North-West Frontier Province	..	..	..	..	30·56
Sind	..	..	..	..	19·95

4. *Birth Registration*.—The highest birth-rate 46·8 was recorded in the Gaya district and the lowest birth-rate 25·3 in the district of Singhbhum. The municipalities of Tikari, Revelganj and Bettiah registered the highest birth-rates, namely 42·1, 39·6 and 37·0 respectively whilst the municipalities of Deoghar, Dumka and Jamshedpur registered the lowest rates, viz., 2·4, 6·6 and 7·0.

The rural and urban areas of the province recorded 1,090,305 and 25,873 births, the mean birth-rates for these areas being 35·1 and 19·3 per mille population respectively.

The birth-rates recorded in the majority of the districts and towns came to very near the mean figures. The average does not appear to be appreciably affected because variation of both high and low rates have been few and confined only to small populations.

5. *Deaths*.—The total number of deaths in the province during the year under review was 763,733 (405,996 males and 357,737 females) as compared with 729,454 in the previous year. Out of these 745,663 deaths were recorded in the rural areas and 18,070 in the urban areas. The total deaths show an increase of 34,279 deaths or 1·1 per mille of the total population over those recorded in the preceding year. The provincial death rate for 1938 was 23·6 as compared with 22·5 in 1937. The slight increase in the death-rate during the year under review has been essentially due to the occurrence of comparatively larger number of deaths from fevers and cholera. The average death rate for the last decennium shows a slight increase and was recorded to be 23·1 as against 23·0 of the previous year. The statement below shows comparative death-rates in the other provinces.

Province.					Death rate per mille of population, 1938.
Bihar	..	..	..	..	23·59
Orissa	..	..	..	..	29·49
Bengal	..	..	..	..	26·36
United Provinces	..	..	..	..	25·82
Central Provinces..	..	..	..	..	41·07
Punjab	..	..	..	..	26·44
Bombay	..	..	..	..	30·47
Madras	..	..	..	..	23·46
Burma	..	..	..	..	25·73
Assam	..	..	..	..	22·42
North-West Frontier Province	..	..	..	..	22·89
Sind	..	..	..	..	12·40



6. *Death Registration.*—The highest death-rates were recorded in the districts of Gaya, Palamau and Muzaffarpur as 29·2, 28·3 and 25·6 respectively whilst the lowest death-rates were recorded in Singhbhum and Manbhum districts as 16·1 and 17·6 respectively. Amongst the towns in the province the highest death-rates were recorded in Gaya (39·6), Hazipur (26·1) and Tikari (24·8) and the lowest in Sahebganj (2·0) and Deoghar, Giridih and Dumraon (2·7).

The average death-rate of the rural areas was 24·0 and of the urban areas (13·5). Thus the rural death-rate was higher than that of the urban by 10·5.

The rate of increase in the population, i.e., the excess of the birth-rate over the death-rate in the province was 10·9 as compared with 11·5 in the previous year.

7. *Mortality according to age, class and sex.*—The mortality rate based on the census figures of 1931 was 190·2 for male infants and 150·7 for female infants under one year of age per mille population as compared with the corresponding figures of 180·2 and 144·6 of the previous year. But when calculated from the actual births recorded during 1938 the mortality rate for infants under one year was found to be 129·70 for males and 109·55 for females per mille with the total infant mortality rate of 119·8 per mille as against the corresponding total of 115·9 in 1937. This shows that the rate was increased by 3·9 per mille during the year as compared with that of the previous year. With the termination of the first year of life the rate as usual fell to 42·2 for males and 37·1 for females as compared with the corresponding figures of 39·5 and 34·4 registered in the previous year. The mortality amongst males was higher than that amongst females in the ratio of 113 to 100.

There were, as usual, considerable differences in the death-rates amongst the different communities. The death-rate was highest amongst the Hindus (24·1) and lowest amongst the Buddhist (0·0). A death-rate of 20·6 was recorded among the Muslims and 17·2 among the Christians while that of the other classes was 23·2.

8. *Verification of the registration of vital occurrences.*—Registration of vital occurrences is compulsory in all the municipal areas of the province. The accuracy of 17,982 vital occurrences was investigated and verified by the health officers and the vaccination inspecting staff during the year and out of these 33 omissions were detected. The registration of vital occurrences is not compulsory in rural areas. The reporting agency in the rural areas as well as in the municipal areas, remains to be the police. The machinery for reporting vital statistics in the rural areas continues to consist of the village chaukidars who attend their respective thanas on parade days to report the vital occurrences of their respective villages. The collection of vital statistics, through the agency of the illiterate village staff, although prevalent almost all over India, remains defective, specially with regard to the classification of causes of deaths. The village chaukidars while reporting deaths have also to state cause of deaths based on the diagnosis made by themselves or that by any other lay villager or by some illiterate member of the family of the deceased.

With the appointment of health officers as Registrars of Births and Deaths in some of the bigger municipalities, namely Bhagalpur, Patna City, Ranchi and Patna Administration Committee, the responsibility of collection, tabulation and verification of vital occurrences has been transferred in recent years to the health staff of these local bodies. This measure has brought about a distinct improvement in the registration of vital statistics in these areas and with the appointment of better trained health personnel it should be possible for the other municipalities of the province to undertake this responsibility with efficiency. A partial transfer has also been effected in Gaya, Chapra and Muzaffarpur municipalities where both the municipality and the police report these statistics separately. The figures supplied by the police and those by the municipal health staff are compared and cases of under and over-reporting are verified. The results show that the figures collected by the



staff of the municipalities are more accurate. It is expected that as more and more municipalities appoint their health officers they will realise the importance of accuracy in statistical records and will do all in their power to effect improvement in the existing machinery with a view to assume full responsibility of this task independent of the police.

*Verification of Vital Statistics in Rural Areas.*—In rural areas 133,951 vital occurrences were verified by the vaccination staff as against 210,874 in 1937. In the rural parts of the country, specially in the districts where suitable health organisation under a district health officer is not maintained verification of vital statistics and their accurate registration become difficult, but in the district where such officers are employed, they check the figures supplied by the vaccinators and the Civil Surgeons compare the police figures with those furnished by the health officers.

9. *Publication of Vital Statistics.*—The vital statistics for all municipal towns in the province with a population of over 10 thousand was as usual regularly published during the year. Weekly epidemic reports from all the districts shewing attacks and deaths from cholera, small-pox and plague were published regularly in the *Bihar Gazette* and also in some of the important newspapers.

By the publication of these statistics the general public is kept informed of the actual state of health of the larger towns and of the prevalence of epidemic diseases in the districts. Publicity of this kind also demonstrates the utility of accurate vital statistics and helps to create an interest in the minds of the people for the actual state of public health.

### CHAPTERS III AND IV.

#### STATE OF PUBLIC HEALTH IN THE PROVINCE AND HISTORY OF THE CHIEF DISEASES—EPIDEMIOLOGY.

1. *Comparative incidence of the chief diseases.*—The undermentioned statement compares the ratios under the chief heads of mortality of 1938 with the average ratio of the previous ten years :—

	Urban.		Rural.		Combined.	
	Ten years' average.	1938.	Ten years' average.	1938.	Ten years' average.	1938.
1	2	3	4	5	6	7
Cholera ..	0.7	0.2	1.5	0.5	1.5	0.4
Small-pox ..	0.5	0.4	0.4	0.2	0.4	0.2
Plague ..	0.05	0.07	0.1	0.05	0.1	0.05
Fevers ..	6.6	6.6	17.7	19.5	17.2	19.0
Dysentery and diarrhoea.	0.6	0.7	0.1	0.09	0.1	0.1
Respiratory diseases..	0.5	0.5	0.07	0.07	0.09	0.09
Injuries ..	0.5	0.5	0.3	0.3	0.3	0.3
All other causes ..	4.3	4.5	3.3	3.3	3.4	3.4
Total ..	13.8	13.5	23.5	24.0	23.1	23.6



The death rate has increased from 22·5 in 1937 to 23·6 per mille population in 1938. The increase in the number of deaths was due chiefly to comparatively larger number of deaths from fevers, the death rates from this disease being 19·0 as against 18·1 of the previous year. The highest death-rate 19·0 was recorded from fevers. Deaths from malaria are included under the heading of "Fevers" and as malaria prevailed in epidemic form in several districts of the province during the year under review, it is presumed that the increased death-rate from fevers was chiefly due to greater number of deaths from this disease.

The urban areas, except a few small municipal towns, continued to record proportionately less number of deaths, from cholera and fevers. This is obviously due to the maintenance of better standard of sanitation in the municipal towns, but the urban rates from the respiratory diseases again exceeded those recorded in the rural areas. The deaths from pulmonary tuberculosis, pneumonia and bronchitis following influenza are all reported under the head "Respiratory diseases". Although no means exist to know the exact number of deaths from each of these diseases, it is presumed that a big proportion of these deaths was caused by pulmonary tuberculosis. The chief reason for higher death-rates from pulmonary tuberculosis in the urban areas of the province may be ascribed to overcrowding, malnutrition and lack of fresh air. Public opinion has been greatly roused in recent years against the scourge caused by this disease. Tuberculosis has been added to the list of notifiable diseases under the Municipal Amendment Act of 1935.

2. *Cholera Statistics.*—The death-rate from cholera was 0·4 per mille in 1937 and 0·4 per mille in 1938. The districts of Champaran and Darbhanga recorded the highest death-rate, viz. 1·3 and 0·8 respectively. Amongst the towns Bettiah (1·5) and Roserah (1·1) reported highest death-rates.

3. *Cholera in the Province.*—The total number of deaths from cholera in the province was 14,750 in 1938 as compared with 13,949 in 1937 and 6,070 in 1936. The districts of Champaran and Darbhanga registered highest number of deaths from this disease during the year, namely 2,725 and 2,610 deaths. Of the other districts Gaya, Bhagalpur and Muzaffarpur recorded 1,500, 1,358 and 1,245 deaths from cholera during the year. The disease started in sporadic form in all these districts from March and prevailed till the end of the year. The maximum intensity was reached in all of them in November except in the districts of Ranchi and Singhbhum.

4. *Cholera preventive measures.*—Although it is commonly realised that without protected water-supplies and efficient conservancy it is difficult to arrange for an effective control of the spread of infection in village areas, a definite progress has been made in recent years in checking the outbreaks of cholera from taking an explosive turn specially in the district which have employed well-trained health personnel under qualified health officers. Ten districts continued to employ health officers with suitable subordinate health staff during the year and there were as usual fewer demands for epidemic doctors to control cholera from these districts. But when the outbreak became widespread and the district staff were found to be inadequate to cope with the situation, temporary epidemic doctors had to be detailed from the department. 24 Government epidemic doctors were detailed on epidemic duty during the year in the cholera affected areas.

Stock of disinfectants such as Bleaching Powder and Permanganate of Potash and also of Cholera-phage are kept in reserve at the offices of the district boards and the municipalities. In cases where the stock get exhausted and the local bodies are not in a position to replenish them, the Civil Surgeons and the executives of the local bodies send requisition for these to the Director of Public Health who supplies these to them. Anti-cholera inoculation has now become a popular preventive measure and people are pitching faith in increasing degree in its efficacy, with the result that a great many persons now come forward of their own accord to offer themselves for inoculation. Government maintain a large stock of cholera vaccine at the Vaccine Depot, Namkum. The Superintendent, Vaccine Depot, is generally asked by telegram to despatch



the vaccine immediately it is required anywhere in the province. The number of doses of cholera vaccine issued during the year was 593,375 as against 640,000 doses during the previous year. The use of choleraphage for the prevention and treatment of cholera is dealt with in Chapter XIV.

5. *Small-pox*.—The total number of deaths from small-pox during 1938 was 5,977 as compared with 7,485 in 1937. The mortality rate for the year 1938 was 0·2 as against 0·2 of the last year. From a study of mortality rate from small-pox from 1922 to 1938 it appears that the lowest number of deaths from this disease was recorded in the province in 1922. The number of deaths then gradually increased every year till the maximum was reached in 1926. The figure then declined annually till the lowest was touched in 1929 with another gradual rise and a peak rise in 1933. From 1934 onwards, a gradual lowering in the yearly deaths from this disease was again experienced and 1937 has recorded the lowest number of deaths since the last peak rise. A cyclic rise appears to be well marked in the epidemicity of small-pox in the province. The exact cause of this cyclic rise is not definitely understood, but it is believed that the effect of vaccination wears out with the passage of time usually five to seven years; with the result that greatest accumulation of susceptible individuals occurs during the year that corresponds with the peak years. The highest death-rate from small-pox was registered during the year in the districts of Palamau (0·5), Gaya (0·4) and Saran (0·4), while the districts of Hazaribagh (0·02), Singhbhum (0·04) and Ranchi (0·05) returned the lowest death-rate. Amongst the towns Gaya, Muzaffarpur and Monghyr reported highest death-rates, viz., 1·5, 1·3 and 1·1 respectively.

Primary vaccination is compulsory under the Bengal Vaccination Act in all the municipal towns of the province and the rural areas of the districts of Patna, Gaya, Bhagalpur, Saran, Champaran, Darbhanga, Purnea, Hazaribagh and Shahabad. All these districts except Hazaribagh maintain health organisations under district health officers. With the enforcement of the provisions made under sections 92 to 96 of the Local Self-Government Act, the responsibility of the administration of Act has been transferred to such local bodies as have taken up health organisation schemes and the health officers of the district boards of Gaya, Shahabad, Saran, Muzaffarpur, Purnea, Darbhanga, Patna, Champaran, Bhagalpur and Manbhum have been appointed Superintendents of Vaccination. The inspection of vaccination is done by the district health staff in these districts and Government vaccination inspecting staff have been withdrawn. The Civil Surgeons function as the Superintendents of Vaccination in places where the local bodies have no health officers and Government exercise control over the administration of vaccination through the Assistant Directors of Public Health who make annual inspection tours and submit special reports on this work. The three special inspectors of vaccination that were appointed by Government a few years ago to ensure better supervision of the vaccination work continued to function during the year, one under each of the Assistant Directors of Public Health. Their services were specially utilised to render assistance to the local bodies in the vaccination administration in accordance with the provisions of the Vaccination Act in the compulsory areas. They were also sent to most of the areas where small-pox broke out in epidemic form to induce the people to accept vaccination operations. A great deal still remains to be done before it can be hoped to make vaccination universally acceptable. It is expected that all the district boards of the province will soon take over direct control of this very important public health measure and provide facilities for vaccination and re-vaccination of the entire population.

The vaccine lymph manufactured at the Vaccine Depot is supplied throughout the province free of cost. The lymph before being issued is thoroughly tested with regard to its potency and purity. The lymph produced is considered to be of high standard. This is borne out by the high percentage of successes obtained with its use in primary vaccination which has invariably been found to be 98 to 99 per cent. 1,500,764 vaccination operations were performed in the province during the year under report. Out of these 994,795 were cases of primary and 505,969 were those of re-vaccination.



Although vaccination confers sure protection against small-pox infection and about two lakhs of persons get vaccinated every year, the province continues to register large number of deaths from this disease and the incidence tends to show sharp rises at times. This is due to the fact that a large number of the children born every year escape even primary vaccination and the need for re-vaccination is not yet fully appreciated by a large number of the general population. It is, therefore, considered that so long, not only primary vaccination, but also periodical re-vaccination of the whole population, is not made compulsory, it will not be possible to ensure complete disappearance of the incidence of this disease.

6. *Plague*.—There were 1,838 deaths from plague in the province during the year as compared with 1,470 in the previous year. The death rate remained the same as in the last year. Plague was absent from North Monghyr, North Bhagalpur and Purnea. Although incidence of plague has greatly declined, during the last decade in the province, there are still certain isolated foci in the districts of Champaran, Saran, Muzaffarpur, Darbhanga and North Monghyr where plague starts almost every year with the approach of the winter season, reaches its maximum intensity during February and March and declines with the advent of the summer months. The district of Saran with a total of 1,173 deaths recorded the highest death-rate (0·04) followed by Muzaffarpur (0·1) and Champaran (0·08).

In the district of Champaran plague was responsible for 181 deaths during the year and of these 54 deaths occurred in Bettiah town. Infection of plague was imported to Bettiah town for the first time in January 1934 and the disease has become endemic since then. To combat the disease a plague hospital was opened on 23rd January 1938 and a number of cases were treated with plague serum under Dr. Wagle of Haffkine Institute of Bombay at the instance of the Public Health Department and through the assistance of the Bettiah Raj. Dr. Wagle treated 135 cases out of which 73 were treated with serum and 62 were control cases. Deaths among Serum treatment were 20 (27·30 per cent) against 35 (56·45 per cent), among the control cases which were treated with Iodine. Dr. Wagle closed his experiment on the 29th April 1938, but the hospital was retained till the end of June 1938 for the treatment of plague cases under the charge of an epidemic doctor.

In the district of Saran the epidemic in January continued from the previous year. The disease subsided in June but broke out again in epidemic form in August. A total of 1,173 deaths were recorded from plague in the district as against 1,098 of the previous year and 19,518 persons received anti-plague inoculations.

In Muzaffarpur district plague as usual was confined to the endemic areas of the Hajipur subdivision and a portion of Sadr subdivision with a mortality rate of 0·1 as against 0·7 of the previous year. Anti-plague inoculations 9,420 in number as against 6,076 of the previous year were performed by the dispensary and the public health doctors of the district board.

In Darbhanga 3 deaths were recorded during the year as against 42 deaths of the previous year. The deaths mostly occurred in sporadic form in the Dalsingsarai and Warishnagar thanas.

The incidence of the disease appears to have disappeared in the district of Monghyr. No death occurred from plague in this district during this as well as in the previous year although an endemic focus had existed in Begusarai subdivision where deaths had been occurring almost every year prior to this period.

7. *Dysentery and Diarrhæa*.—There were 3,725 deaths from this group of disease as against 4,006 deaths in the preceding year and the mortality rate was 0·1, as against the same in the previous year. The towns which recorded highest death-rates were Lalganj (2·6), Colgong (2·4), Gaya (2·0) and Revelganj (1·9). The highest number of deaths occur from these diseases usually during the monsoon months whilst the lowest is recorded during the driest part of the year. This fact demonstrates that the incidence of these diseases as well as of other bowel diseases are closely associated with the nature of conservancy service and the state of water-supply.



## CHAPTER V.

## FAIRS AND FESTIVALS.

1. A number of melas are held every year in the different parts of the province where large numbers of people, usually exceeding fifty thousand, congregate. Besides these there are innumerable melas of local interest which are held throughout the year and attended by the inhabitants of the districts in which they are held and those of the adjoining ones. But the three melas, namely Pitripaksha held at Gaya, Hariharchatra at Sonapur and Bhadra Purnima at Deoghar have more than local interest and attract a large number of visitors from the other provinces of India. These melas are mostly of religious significance and are usually held on the eve of the religious festivals. The gatherings of such a large number of people in fairs and melas have been frequently responsible in the past for the outbreak and spread of cholera in the province. But with the growth of public health organisation in the districts and the provision of adequate sanitary arrangements the risk of cholera breaking out at these congregations has been much reduced during recent years. Protected water-supply and arrangements for the quick removal of refuse and filth have been important factors in controlling and checking the outbreak of cholera at these big gatherings of the people.

2. The Sonapur fair which is considered to be the largest cattle fair in the world was held during the year from the 3rd to 18th November. The principal bathing day fell on the 7th November. Over two and half lakhs of people visited the fair during this period. An unusual feature of the fair was a large gathering of people, about 75,000 at Paleza Ghat. This large number was apparently on account of the Lunar Eclipse that took place on the occasion. 20,850 cattle, 23,546 horses and 1,052 elephants were brought for sale in the mela area at Sonapur. Special sanitary arrangements as in previous years were made by the Public Health Department in collaboration with the health staff of the district board, Saran, in whose jurisdiction the mela is held. But the difficulty of controlling promiscuous defæcation was keenly felt at the Gandak and Paleza Ghat. Three epidemic doctors were deputed by the Public Health Department for mela duty. For the proper management of the sanitary arrangements, the mela area was divided into three sanitary sections, each placed in charge of a doctor assisted by Health Inspectors and other subordinate staff of the district board. Adequate arrangements for the supply of protected water to the people existed throughout the mela period. The Sonapur water works arranged, as in last year, the supply of potable water derived from the four tube-wells through 79 stand posts and over-head distribution tanks fitted with taps. This year the piped water-supply was extended to the mela post and telegraph office and to the Boy Scouts Association Camp to the north of the Inspection Bungalow. Chlorination of the piped water supply was daily carried out throughout the mela period. Besides this 163 wells, including 111 private ones, were disinfected. Arrangements for sanitary conveniences were made by providing trench latrines at 39 places for men and 24 places for women, with a total number of 510 seats. In addition, two septic tank latrines were also brought into use. The inadequacy of latrine accommodation were keenly felt at the Paleza Ghat Railway Station, where a large number of people alighting from the trains wait either for a dip in the Ganges or to catch trains to Sonapur. It is desirable that more latrines should be provided in future with a view to prevent the fouling of the mela area, particularly the ghats.

Between the 7th and 12th November, 12 cases of cholera against 37 of the previous year occurred in the mela area and all of them were removed for treatment to the temporary cholera hospital. Two cases of cholera occurred among the pilgrims at the Paleza Ghat where a temporary Isolation Hospital shed was put up in charge of a medical officer of the board. Five sweepers were employed by the board to clear the grounds at the ghat. The railway deputed a sanitary gang consisting of a Jamadar and six sweepers only at the height of the fair i.e., 7th and 8th November. Proper sanitary arrangements throughout the mela period is necessary.



An educative health propaganda was carried out by the health staff during the mela. They delivered 18 lectures illustrated with magic lantern slides. Printed leaflets on public health subjects in different vernaculars were widely distributed as in the previous years and illustrated coloured posters were also exhibited at the prominent places. Special leaflets for the prevention of Gonorrhoea and Syphilis were distributed in the prostitutes' camp in the mela area. To tackle the problem of prostitutes who visit the melas in appreciable number and form a potent source of spreading venereal infection, legislation is necessary. A census of prostitutes encamping in the mela area was taken. 230 were present as compared with 327 of last year.

3. The Pitripaksha mela at Gaya commenced this year from the 9th September and lasted till the 23rd September 1938. 78,025 pilgrims visited Gaya as against 85,875 of the previous year. 205 lodging houses were licensed during the year as against 204 of the previous year, under the Places of Pilgrimage Act which is enforced in Gaya. Most of the pilgrims were lodged in licensed houses and Dharmshallas. For the proper sanitary management the whole of the mela area, excluding the railway station, was divided into five sanitary units with one sub-assistant surgeon in charge of each unit and assisted by a suitable conservancy staff. Five temporary out-patient dispensaries were started at the different centres in the town for providing medical and surgical relief to the pilgrims. The total number of patients treated at these centres was 2,958. All these centres were provided with stretchers and an ambulance push cart. One permanent lodging house Inspector and another appointed temporarily for the mela period regularly visited the lodging houses and looked after the sanitation and the health of the pilgrims lodged in the lodging houses. Extended hours of piped water-supply lasting for 18 hours a day was arranged in the mela area for the whole of the mela period and chlorination was carried out continuously by chloronome apparatus. The wells in the mela were also disinfected twice, once before the commencement of the mela and once during the mela period. Special arrangements for the collection and disposal of *Pindas* and for the cleanliness of the tanks and river ghat where *Pindas* are offered were made. One head cooly and six other coolies were engaged for 16 days for this purpose. One sub-assistant surgeon was also posted by the Railway at the Gaya Railway Station to attend the pilgrim trains from the 8th September 1938 and one treatment centre with ambulance arrangement in charge of a railway doctor was also opened from the same date. The water tanks at the railway station was daily phaged. A unit of St. John Ambulance Brigade, Calcutta, consisting of one officer and 16 men worked in the mela area till the 21st September 1938, when they were relieved by a unit of the Patna Medical Ambulance Division which dispersed with the closing of the mela. The mela passed off smoothly. No case of cholera occurred in the mela during the whole mela period.

4. The Bhadra Purnima mela was held at Deoghar from February 26 to March 2, 1938. About 35,000 pilgrims congregated on the principal mela day which fell on 28th February 1938. Under the Places of Pilgrimage Act which is enforced in Deoghar, 78 lodging houses were licensed, providing accommodation for 2,998 pilgrims. Adequate sanitary arrangements under the supervision of the Health Officer of Deoghar Municipality were made throughout the mela period. A Government epidemic doctor was also detailed to Deoghar for mela duty. To prevent the risk of infection of cholera being carried to Deoghar with the pilgrims, the Health Officer, district board, Bhagalpur and the Civil Surgeon, Dumka, were asked to exercise strict vigilance over the pilgrim routes to detect any case of cholera amongst the pilgrims and to take prompt preventive measures before they entered Deoghar. Inspection posts along the routes to Deoghar were put up. It is satisfactory to note that the mela passed off smoothly and no case of cholera or other epidemic disease was reported in Deoghar town during the period that the mela lasted.



Besides these, a great many other fairs are also held in the province. In the districts having health organisations, adequate sanitary arrangements were made on these occasions by the local bodies under the direct supervision of the health officers. The important ones were visited by the Assistant Directors of Public Health who helped the local bodies in organising the sanitary arrangements. Government epidemic doctors were detailed by the Public Health Department to places where their services were considered necessary.

## CHAPTER VI.

### URBAN SANITATION.

Twenty-nine out of fifty-three municipalities were inspected by the Assistant Directors of Public Health during the year under review and reports on their inspections were duly submitted to Government. Stress was laid in all the reports on the need for the provision of wholesome water-supply, efficient removal and disposal of refuse and night-soil, suppression of nuisances, improved hygiene and better control of food supplies. Adequate provision of these forms the basic requirement of the community, if it is to maintain at all reasonable standard of health. The majority of the municipalities continue to show inability to employ suitable qualified health officers on grounds of financial stringency and so long as their financial position does not improve, any proposal of employment of such officers by them appears to remain a remote possibility. The municipalities of Patna, Gaya, Ranchi, Bhagalpur, Darbhanga, Muzaffarpur and Deoghar continued to maintain full time health officers during the year. The health officers of Patna, Gaya and Ranchi municipalities belong to the Provincial Public Health Cadre and are paid by Government, while those employed by Bhagalpur, Darbhanga, Muzaffarpur and Deoghar municipalities are paid by the local bodies concerned. The rules framed by Government, laying conditions for recruitment of health officers by the municipalities have been so amended as to provide smaller municipalities having less than 50,000 population with the option to employ health officers with L. P. H. qualification. The amendment enabled the municipality of Deoghar to appoint a health officer with this qualification on smaller pay. It is expected that other smaller municipalities of the province will also take advantage of this position and soon appoint their health officers. Such health officers for Bihar, Bettiah and Siwan municipalities should be appointed.

The necessity of appointing suitable qualified health officer in larger municipalities such as Chapra, Arrah, Purulia and Hazaribagh has long been felt and had been stressed for a number of years in the public health reports. Sanitary Inspectors by reason of their limited training are not considered to be qualified enough to carry out effectively all the duties of a health officer. This is borne out by the fact that the municipalities which do not employ health officers make requisitions for Government epidemic doctors much more frequently than those which have health officers of their own.

Compulsory primary vaccination under the Bengal Vaccination Act is in force in all the municipal towns of the province and the Civil Surgeons have to act as Superintendents of Vaccination except in the municipalities of Patna, Gaya, Ranchi and Bhagalpur where the responsibility of control of vaccination has been transferred to the health officers and these health officers have been appointed as Superintendents of Vaccination under section 268 of the Bihar and Orissa Municipal Act, 1922.

Most of the recommendations made by the Assistant Directors of Public Health involving minor expenditure were as usual given effect to by the municipalities at their own cost. The recommendations, with regard to bigger



schemes and major public health projects, e.g., the provision of protected water-supply, improved drainage, construction of sanitary markets, opening up of congested areas, etc., had to wait because of the stringency of finances from which the municipalities in general chronically suffer.

2. *Expenditure on Sanitation in municipal towns.*—The statement below shows the receipts and expenditure for sanitary purposes during the year 1937-38 as compared with those of the previous year :—

Number of municipalities.	Total receipt including opening balance.		Heads of Expenditure.	1936-37.	1937-38.	Percentage of expenditure to the total receipts.	
	1936-37.	1937-38.				1936-37.	1937-38.
1	2	3	4	5	6	7	8
	Rs.	Rs.		Rs.	Rs.		
53	63,43,637	61,70,950	Conservancy ...	10,81,176	10,74,071	17.0	17.4
			Drainage ...	4,71,613	2,85,048	7.4	4.6
			Water-supply ...	4,62,989	3,98,295	7.3	6.4
			Vaccination ...	14,794	14,337	0.2	0.2
			Epidemics ...	19,417	10,981	0.3	0.2
			Markets and Fairs ...	40,753	37,217	0.6	0.6
			Other Sanitary Charges.	8,348	16,615	6.1	0.3
			Public Health staff ...	62,670	67,634	1.0	1.1
			Total ...	21,61,760	19,04,198	33.6	30.8

\* Contagious Hospitals ... 2,28,958 2,78,638

\* This represents cholera hospitals and leper asylums, etc. An expenditure of Rs. 2,78,638 has been incurred in 1937-38. The expenditure is mainly met from Government grants.

3. *Chief sanitary works in municipal towns.*—The details of expenditure under this head are dealt with in the report of the Special Officer, Public Health Engineering Department, Bihar.

## CHAPTER VII.

### RURAL SANITATION.

The health organisation scheme continued to function in 10 out of 16 districts of the province, namely, Patna, Gaya, Shahabad, Muzaffarpur, Saran, Champaran, Darbhanga, Bhagalpur, Purnea and Manbhum during the year. The primary aim of the organisation is to prevent occurrences of epidemic diseases and disseminate knowledge of elementary hygiene and sanitation among the rural masses. A complete health organisation as was recommended by Government for adoption by the district board consisted of a fully qualified Health Officer stationed at the district headquarters and Assistant Health Officer preferably with L. P. H. qualification stationed at each subdivisional headquarters and a trained health inspector with headquarters at each police-station with a suitable number of such other staff as sanitary jamadars, disinfectors, vaccinators and sweepers. Each of the districts where this organisation scheme has been introduced, maintains a qualified health



officer but the subordinate health staff vary in accordance with the respective financial position and the budget allotments of the different boards for expenditure on health and sanitation. Some of these boards have also Assistant Health Officers of L. M. P. qualification who are posted at the subdivisional headquarters. All the districts, where the health organisation scheme functions, have been divided into different circles consisting mostly of two or three thanas. Each of these circles is put in charge of a trained health inspector. The Health Officers of the districts of Gaya, Muzaffarpur, Saran, Bhagalpur, Darbhanga, Champaran and Shahabad belong to the Public Health cadre of the province and they draw their salaries from the provincial budget, while the Health Officers of the district boards of Patna, Purnea and Manbhum are appointed by the boards and draw their salaries from the boards' funds. Patna and Muzaffarpur district boards received an annual contribution of Rs. 10,000 from Government for their health organisation scheme while the Manbhum board received an annual grant of Rs. 6,000 towards the cost of the maintenance of the health officer. Previously the Civil Surgeons were entirely responsible for the control of vaccination administration as Superintendents of Vaccination and Government employed inspecting staff (Inspectors and Sub-Inspectors) to check the work of the vaccinators. With the introduction of the health organisation schemes in some of the districts, it became possible to transfer the responsibility of vaccination administration to the district boards. Health Officers of these district boards have been appointed Superintendents of Vaccination and Government vaccination inspecting staff have been withdrawn from such districts.

Bengal Vaccination Act continued to remain in force in the rural areas of the districts of Patna, Gaya, Shahabad, Muzaffarpur, Champaran, Saran, Darbhanga, Purnea, Bhagalpur and Hazaribagh. Application of the Act was also extended to the rural areas of the Manbhum district during the year under review. Vaccination is not compulsory in the rural areas of the remaining districts, for want of health organisation scheme in these five districts.

The problem of rural health deserves special consideration. As much as 96 per cent of the total population of this province live in rural areas.

In villages such elementary requirements as safe water supply, satisfactory disposal of night-soil or even passable approach road remained mostly unprovided and by far the majority of the annual toll of deaths continues to occur from preventable diseases.

It is essential, therefore, that a suitable and proper health organisation should deserve consideration in any scheme of rural development for the province.

A health organisation scheme with a qualified health officer is considered to be an urgent necessity for every district. Government recognise the necessity of health officers for the remaining six districts and have provided for three health officers during the next year. In addition to a health officer in the district a suitable subordinate health staff consisting of Assistant Health Officers, trained Health Inspectors, Midwives, Sanitary Jamadars, Disinfectors, Vaccinators and sweepers are necessary for the effective control of epidemics, improvement of sanitation and health education in the groups of villages in every thana. The district boards which have not adopted the health organisation scheme, however maintain at present a certain number of subordinate health staff which is increased temporarily during the time of epidemics. Whenever the epidemics assume serious proportions, the boards requisition for Government epidemic doctors. This means delay and the districts which have no health officers, are naturally handicapped in organising timely adequate measures to combat epidemics.



## 2. Expenditure on sanitation by district boards.—

The following statement shows the receipt and expenditure of district boards under the principal headings of sanitation.—

Number of district boards.	Total receipt including opening balance.		Heads of Expenditure.	1936-37.	1937-38.	Percentage of expenditure to the total receipts.	
	1936-37.	1937-38.				1936-37.	1937-38.
1	2	3	4	5	6	7	8
	Rs.	Rs.		Rs.	Rs.		
16	1,93,91,795	1,82,25,131	Conservancy ...	3,82,999	2,58,027	2.4	1.4
			Drainage ...	5,037	32,074	0.02	0.2
			Water supply ...	1,73,760	2,18,827	0.9	1.2
			Vaccination ...	16,619	14,205	0.08	0.08
			Epidemics ...	83,800	1,01,870	0.4	0.5
			Market and Fairs ...	21,328	18,405	0.1	0.1
			Total ...	6,83,543	6,43,408	3.5	3.5

## CHAPTER VIII.

## MALARIA AND KALA-AZAR.

1. *Malaria*.—Out of a total number of 763,733 deaths registered in the province during the year, the group of diseases included under “Fevers” was responsible for 615,966 deaths or 80.6 per cent of the total deaths as against 584,873 deaths or 80.2 per cent of deaths in the previous year. It is therefore quite apparent that fever undoubtedly remains the principal cause of mortality in the province. Although a large number of deaths from other diseases in which fever is a prominent symptom are included under this group, it is strongly believed that a large proportion of them is caused by malaria.

The severe epidemic of malaria witnessed during 1937 in certain parts of North Bihar particularly in the districts of Muzaffarpur, Darbhanga, Bhagalpur and Purnea occurred again during 1938 with equal severity. The endemic areas of Champaran district experienced a recurrence of the epidemic of the previous year whilst certain portion of North Monghyr also suffered from minor outbreak. The district of Manbhum also recorded an increased incidence. The province recorded during 1938 a death rate of 19.0 from fevers as against 18.1 in 1937. The higher incidence of malaria during the year is apparently reflected in the increased fever death rate. The highest rates for the year were recorded in the districts of Palamau (22.6), Muzaffarpur (22.3), Gaya (22.0), Purnea (21.9), Bhagalpur (21.5) and Darbhanga (21.4).

Sporadic cases of malaria occur in every district of the province almost throughout the year. A total of 1,503,383 cases of malaria was treated in the hospitals and the dispensaries of the province during the year and of these the highest number of cases (293,094) was treated in the district of Darbhanga whilst the least number (31,745) came for treatment in the district of Patna. So malaria more or less of static character may be stated to be prevalent throughout the province, the intensity depending upon the local topographical conditions and variations in the epidemiological factors of the disease from year to year. The tracts which show special proneness to the prevalence of the disease in epidemic form are (1) a narrow long belt in north Bihar contiguous to Nepal, (2) the endemic areas of Champaran and Purnea, (3) the group of villages on the outskirts of the Chota Nagpur plateau in the



neighbourhood of the hills and the river ghats in Gaya district (4) scattered patches in the districts of Ranchi, Hazaribagh, Palamau, Singhbhum and Manbhum adjacent to the range of the hills in the Chota Nagpur plateau.

A brief description of the outbreak in each district where the disease assumed epidemic proportions during the year is given below :—

*Muzaffarpur.*—In 1938 the epidemic was more severe than in the previous year. Early in February 1938 the question of taking measures to root out the troubles as far as practicable was discussed by the Prime Minister, Inspector-General of Civil Hospitals, Director of Public Health, Secretary to the Government of Bihar, Local Self-Government Department, Chairman, District Board, Civil Surgeon and the Assistant Director of Public Health, North Bihar Circle. It was agreed that six centres should be started for the villages where the situation was known to be acute and after tackling them first the staff should work in the neighbouring areas and thus would cover the whole area as far as practicable. The cost involved was estimated to be Rs. 38,600 including the lump sum provision of Rs. 5,000 for weed clearing. Out of this sum Rs. 7,600 was to be contributed by the district board and the remaining sum of Rs. 31,000 by Government as a grant to the Muzaffarpur district board. Government sanctioned the grant in three instalments, viz., Rs. 10,000 on the 2nd March 1938, Rs. 11,000 on the 13th February 1939 and Rs. 10,000 on the 25th March 1939.

As a result of this, six units were located at Majorganj, Parsauni, Rampurhari, Gharbhara, Berua and Bandra and started operations from the beginning of April 1938. But suddenly malaria broke out in virulent form in Pateypur thana area in April 1938 where the incidence of malaria was always low. It was noticed that the intensity of infection varied with the distance from the river Noon. Practically all the villages situated on the bank of this were affected. At that moment the incidence of malaria being low at Bandra area, the whole staff was immediately shifted to Pateypur. The staff settled down to do curative work and started adult mosquito spraying in the villages where the incidence was high.

The weed clearing work in Majorganj area started from early April 1938. The beginning was very hard and the progress in this respect was slow at first but after a month's patient work, the big marshy area in front of the Majorganj Bazar was cleaned and with the removal of the obstructions fresh water began to flow. The cleaning of the Dhar, about five miles in length, drained out Manusmara spills almost completely and the areas, which were under water for many years, were ploughed up by their respective owners for the cultivation of rice.

Several large tanks and low-lying areas were cleaned in Dumri-Majorganj area. The draining away of the old stagnant water and introduction of silt laden fresh water considerably reduced the mosquito menace and greatly improved the malaria condition of the people in the Majorganj area. In Parsauni about five miles of the Purani dhar were thoroughly cleaned up. Deweeding work in Berua, Rampurhari and Gharbhara did not progress well but the work is continuing in right earnest since November.

Malaria also began to show higher intensity in the villages along the banks of the river Baya beginning from Jaitpur to Jandaha, successively from the month of May to August 1938. After the heavy floods, malaria was reported from Shakra, Sadr, Paroo and Pupri thanas.

To cope with the situation, the number of special centres required were opened. Arrangements were also made to distribute quinine through Health Inspectors, Union Boards, Thana Congress Committees and some rural welfare societies. Besides 138,073 patients treated at the permanent hospitals and dispensaries of the district, 345,946 persons were treated at the temporary centres organised by Government and the district health staff. A total of 1,425 pounds of quinine was supplied free by Government and six Government epidemic doctors were detailed during the year.



Besides the above arrangements, Government, with a view to popularise indigenous systems of treatment, provided funds for the opening of two special Ayurvedic and one Tibbi centres. The Ayurvedic centres were located at Panapur and Sewaipatti and one Tibbi centre at Maulanagar. At the Panapur centre 6,213 patients received treatment for malaria and 25,791 for other ailments, at Sewaipatti 9,635 for malaria and 9,374 for other ailments and at Maulanagar 2,903 for malaria and 9,722 for other ailments. These Ayurvedic and Tibbi centres worked satisfactorily and have been popular in the areas but it is difficult to give any definite opinion at this stage as to the advantages of these systems of treatment in malaria in hyper-endemic areas. Efforts are being made to start additional Ayurvedic and Tibbi centres in other areas of this district.

*Bhagalpur.*—The part of the district situated on the north of the river Ganges reported higher incidence of the disease as compared to the area lying south of the river. The police-stations within Madhepura and Supaul subdivisions recorded very high mortality figures from fevers. The floods of the various branches of the river Kosi were more severe this year on the western part of Supaul and Madhepura subdivisions. Particularly the entire part of the police-station Dagmara of Supaul subdivision and police-station Bangaon of Madhepura subdivision remained under water for more than 7 months since the end of April. Malaria infection was less in Bhimnagar, Tribeniganj and Murliganj police-stations than in the more heavily flooded area of Supaul and Bangaon thanas. The district board opened six centres with 25 sub-centres in Supaul and 3 centres and 8 sub-centres in Madhepura subdivisions. In addition, the dispensary staff of Dagmara, Bhimnagar, Panchgachia and Bangaon dispensaries were supplemented with extra staff to cope with the malaria situation. A total of 529,196 malaria patients were treated during the year. Government made a grant of Rs. 9,500 to the Bhagalpur district board to carry out anti-malarial measures in the district. A total of 460 pounds of quinine was supplied free by Government.

*Purnea.*—The epidemic broke out in the month of June and took a serious turn in the month of August. 14 thanas were affected. 28 malarial centres were opened in the affected areas. The board had 19 medical officers to combat epidemic and 4 Government epidemic doctors were also detailed. The epidemic continued till the end of November and began decreasing from the month of December. A total of 71,519 cases of malaria were treated at the centres. A total of 200 pounds of quinine was supplied by Government free.

*Darbhanga.*—A decrease in the incidence of epidemic was noticed in this district during the year. 16 centres with 113 sub-centres were opened for the distribution of quinine. A total of 311,267 patients received treatment. Anti-mosquito campaign was started in the Pandaul area towards the close of the year 1937. In 1936-37 the number of patients treated by the Pandaul unit was 51,140. In 1937-38 after the introduction of the anti-mosquito campaign the number fell to 48,614; during the year under review the number still fell to 34,368. The decrease in the figures in the year under report is ascribed to the anti-mosquito measures and also to the shifting of the course of the Kamla river. Government made a grant of Rs. 8,000 for anti-malarial measures. Five Government epidemic doctors were detailed and a total of 617 pounds of quinine was supplied free by Government.

*Champan.*—In the district of Champan, the anti-mosquito campaign was started from the 7th November 1938 with Shikarpore as the centre and the following sub-centres :—

- (1) Narkatiagunj, (2) Rajpore, (3) Khiria, (4) Saidpur, (5) Pokharia and (6) Satwaria.

All the sub-centres were located at a distance of four miles from the main centre with a radius of two miles all round. One doctor, one compounder, five health inspectors, five mates and 21 coolies were appointed to work on the scheme.



From 7th November to the 31st December, the staff under this scheme cleared weeds from the surface of 237,754 square yards of water and kerosenised the same.

They treated 2,381 malaria patients.

Government made a grant of Rs. 2,000 for anti-malaria measures in the district and fifty pounds of quinine were supplied free by Government. The total number of malaria cases received treatment in the district during the year was 78,396.

*Monghyr.*—Two Government epidemic doctors were detailed on malaria duty. Malarial fever generally occurred in almost all the villages in the district during the year, but was noticed in epidemic form in the area north of the river.

Government made a grant of Rs. 2,000 to each of the district boards of Manbhum, Singhbhum and Ranchi for anti-malarial measures. 560 pounds of quinine was supplied free to the district board of Manbhum.

An enquiry into the prevalence of malaria in Jhalda municipality was made in December 1938 with a view to start anti-malarial measures.

2. *Sale of quinine.*—Sale of quinine treatments was continued at the various post offices in the province. These treatments were as usual supplied to the post offices by the Civil Surgeons who obtained their requirements from the Presidency Jail at Calcutta. Each treatment consisted of twenty tablets of four grains each and each tube containing twenty tablets was sold at five annas and three pies.

352·7 pounds of quinine sulphate in tablet form were sold during the year under review as against 332·5 pounds in the previous year. The largest quantities were taken by the districts of Ranchi, Bhagalpur, Muzaffarpur and Purnea.

3. *Spleen census.*—The Assistant Director of Public Health, Chota Nagpur Circle, carried out spleen census during his vaccination tours in the districts of Ranchi, Santal Parganas, Singhbhum and Hazaribagh. He examined spleen of 9,340 children who came from 1,156 villages and of these 536 children showed enlargement of spleen. This showed a splenic index of 5·73 for the total number of children examined, but when calculated for the district figures, the index came to 8·26, 2·00, 8·29 and 5·22 for the districts of Ranchi, Santal Parganas, Singhbhum and Hazaribagh respectively.

4. *Kala-Azar.*—A report on Kala-Azar in Bihar by the Inspector-General of Civil Hospitals brought to light in December 1938 even more prominently than was known so far that the Kala-Azar situation in North Bihar is acute. A total of 92,000 cases of Kala-Azar were treated in the hospitals and dispensaries of Bihar in 1937 and of them 83,961 cases were treated in the districts of North Bihar. It is obvious that the incidence of the disease is highest in these areas. Government considered the desirability of immediately establishing five Kala-Azar treatment centres in North Bihar, viz., two in the Kishanganj subdivision of the district of Purnea, and one such centre in each of the districts of Bhagalpur, Darbhanga and Muzaffarpur. Government sanctioned a sum of Rs. 6,200 for meeting the expenditure in this connection. Five Government epidemic doctors were deputed to the Patna Medical College Hospital for receiving training in the technique of Kala-Azar serum tests, etc., in the middle of January 1939 and five centres began to function from early February 1939.

A thorough treatment brings about 95 per cent cure in Kala-Azar cases whilst it is difficult to formulate preventive measures in the absence of knowledge of the exact means of the spread of the disease. An anti-Kala-Azar campaign has, therefore, to be restricted to the provision of intensive treatment in the affected areas. With a view to launch an intensive campaign in Bihar, Government sanctioned the scheme for establishing 15 additional centres in North Bihar, viz., six in Purnea, three each in the districts of Muzaffarpur, Darbhanga and Bhagalpur and one in Chota Nagpur, viz., Hazaribagh, during 1939-40.



## CHAPTER IX.

## MATERNITY AND CHILD WELFARE.

The Maternity and Child Welfare Society, which was constituted in August 1928, continued to function during the year with Lady Hallett as the President, the Inspector-General of Civil Hospitals as Honorary Secretary and the Accountant-General, Bihar, as Honorary Treasurer. Eight centres worked under the auspices of the Society in the province, viz., three in Patna, two in Singhbhum and one each in Monghyr, Muzaffarpur and Ranchi. There are also proposals to start or reorganise several new centres, e.g., one each at Motihari, Purnea, Chapra, Padma in the district of Hazaribagh and Arrah. Those at Purnea and Chapra have already been opened but not yet affiliated to the Provincial Society. The foundation for the centre in Padma has been laid by Lady Hallett. It is the first of its kind in a rural area in Bihar.

The income of the Society amounted to Rs. 10,164-8-0 including Government grant of Rs. 9,000 and the expenditure amounted to Rs. 8,403-11-0. The Society as usual made contributions to the various centres which also received financial help in the shape of subsidies from the local bodies concerned, donations raised from the local people and assistance received from the Victoria Memorial Scholarship funds and the Provincial Branch of the Red Cross Society. The municipalities of Ranchi, Darbhanga, Purulia, Dhanbad and the Patna Administration Committee also continued to maintain a midwifery service for their respective areas. One midwife was employed by each of these municipalities. Information received from the chairmen of the local bodies and the Civil Surgeons show that 17 Maternity and Child Welfare Centres functioned during the year 1938 in the province and of these 13 were located in the urban areas whilst two were situated in the rural areas. During the same period seven health visitors including one maternity supervisor entertained by Government, 88 trained midwives and 75 trained indigenous *Dais* were employed throughout the province and of these only 34 trained midwives and 26 trained *dais* worked in the rural areas. Over and above these, the industrial areas under the Jharia Mines Board of Health and Tata Iron and Steel Company maintained their own Maternity and Child Welfare organisations. There were 11 Maternity and Child Welfare Centres managed by the Jharia Mines Board of Health during the year, viz., one in Jharia circle, six in Kenduadih circle and four in Sijua Circle. All these circles remained in charge of duly qualified Health Visitors. The Board supplies to all the centres towels, combs, cod liver oil and simple medicines such as cough mixture, quinine, ear drops, eye drops, boric and sulphuric ointments, milk and sugar, etc., for the Health Visitors to use at the centres on clinic days. A reward of annas 4 per case conducted by indigenous *Dais* under the supervision of a Health Visitor is paid to *Dais*. In addition, all indigenous *Dais* undergoing training at the various centres are also paid a reward of annas 2 per head per attendance. All the *Dais* operating in the area under the maternity scheme are also supplied with fully-equipped boxes. Soap and oil at all centres were also distributed free of charge throughout the year. The Maternity Ward of the Tata Hospital at Jamshedpur also remained open throughout the year and the Lady Doctor employed there continued to conduct labour cases free at the houses in the local areas. Construction of a house for opening one Maternity and Child Welfare Centre in Jamshedpur has been completed.

No means exist at present to ascertain the maternal mortality rate either for the urban or the rural areas, but the infant mortality rate for the province during the year was 120·5 in the urban and 119·8 in the rural areas while the death-rate for the children under five years of age was 42·2 for the males and 37·1 for the females. No special method was employed during the year to ascertain the infant death-rate. The village chowkidars, as usual, reported the deaths mentioning the cause of the death as stated by the parents and guardians to the thana officers through *hath-chittas*. The



thana officers in turn reported these to the Civil Surgeons who tabulated the figures for the whole district and sent a weekly report to the Director of Public Health.

The work of the centre is chiefly of educational nature. Minor ailments are attended to and those requiring hospital treatment are referred to the local hospital. Anti-natal cases, infants and toddlers are regularly visited in their own homes and simple labour cases are attended to in the homes of patients. Abnormal cases are sent to hospital. Informal talks on hygiene are given to mothers attending the centres.

All infants and toddlers brought to the centres are washed as circumstances permit, supplied with milk, cod liver oil, barley water, warm Kurtas, etc. They are weighed regularly and their general physique and development watched. The tubercular babies and mothers are supplied with milk and medicines. *Dais*, both indigenous and others, are also trained at the centres.

Every centre is in charge of a Lady Health Visitor assisted by a midwife. It is also regularly visited by the local Lady Doctor and in the case of the Patna centres by the Government maternity supervisor.

The municipal commissioners have framed bye-laws under section 14(1) of the Bihar and Orissa Nurses' Registration Act, 1935, to restrict the practice of unqualified *Dais*. They have moved the local Government to confirm and publish the bye-laws with the proviso that the bye-laws may come into force on the 1st January 1941, and that if the municipal commissioners consider on the 1st January 1941 that the number of trained *Dais* is not sufficient they will have the right to extend the said date. Classes for the training of indigenous *Dais* continued to be held during the year in accordance with the Victoria Memorial Fund syllabus in most of the Sadr and Subdivisional hospitals.

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## CHAPTER X.

### SCHOOL HYGIENE AND MEDICAL INSPECTION OF SCHOOL CHILDREN.

1. The Government maintain a special staff of officers for the medical examination of scholars of the high English schools since 1920. This system was subsequently extended to the middle English schools at places where there is also a high English school.

There is one school medical officer of assistant surgeon grade and one assistant school medical officer of sub-assistant surgeon class in each of the four divisions of the province. These officers visit all the high schools and most of the middle English schools in their respective divisions. Besides these, some of the medical officers of health of the district boards, where such officers exist, also carry out medical examination of the students of the middle schools which are situated at places where there is no high school.

2. *Medical examination of scholars.*—Usually all the new scholars admitted to the schools since the previous visit of the school medical officers are thoroughly examined and a complete medical history of each new entrant is recorded on a prescribed form. All scholars found to be suffering from physical defects at a previous inspection are re-examined and a further note on the defects is recorded. At the end of the inspection, parents or guardians of boys found to be suffering from physical defects are informed of the particular defects the boys are suffering from and they are recommended to consult their medical attendants or to take the boys for treatment to the nearest hospital or dispensary. The medical officers of the dispensaries or hospitals are required to note on the counterfoils of the forms the treatment the boys have received and the results. Attempts have also been made since 1933 to start school clinics attached to each of the divisional hospitals which are attended by the school medical officers during their stay at the headquarters.



During the medical inspection of girls' schools in the year under review, 1,460 girl students were examined. 72·87 per cent were found to be suffering from various forms of ailments such as mal-nutrition, defective vision, granular lids, caries teeth, enlarged tonsils, anæmia, bronchitis, ringworm, enlarged spleen, etc., and were recommended for medical advice and treatment. The total number of girls who have been benefited by medical treatment and have been found free from the diseases on next examination during the year was 774. A large proportion of diseases and unsatisfactory condition prevalent among the girl students appear to be generally due to carelessness, deficient or improper food and insanitary conditions of living.

The following is a statement showing the number of children examined by each of the school medical officers and the number recommended for treatment in 1938.

Divisions.	Number of children examined.	Number of children recommended for treatment.	Number of children recommended for treatment found on re-examination to have actually received treatment.	Number of children found to have been benefited from treatment.
1	2	3	4	5
Patna .. ..	3,591	1,287	560	428
Tirhut .. ..	3,679	1,285	310	201
Bhagalpur ..	3,542	1,576	1,220	Not known.
Chota Nagpur ..	2,581	1,186	562	361

From the statement above it would appear that out of 13,393 children examined during the year, 5,334 or 39·7 per cent suffered from some kind of ailments. The number of children suffering from various conditions is noted below :—

	Number of children found suffering from—	Percentage of children found suffering from—
1. Poor nutrition .. ..	2,230	16·6
2. Errors of refraction .. ..	1,214	9·0
3. Eye diseases such as trachoma, conjunctivitis, blephritis, and corneal opacity.	89	0·6
4. Pyrrhea and caries teeth .. ..	756	5·6
5. Enlarged tonsils .. ..	1,386	10·3
6. Adenoids .. ..	46	0·3
7. Enlarged glands in the neck .. ..	701	5·2
8. Functional heart troubles .. ..	161	1·2

Over and above these, 15 children suffered from the organic tensions of the heart, 7 from pulmonary tuberculosis, whilst 146 showed enlargement of spleen and 237 were found to be unvaccinated. During the same period the various health officers employed by the district boards examined 3,718 children and of them 555 were found to be suffering from different diseases. Majority of them were found as usual to be suffering from poor nutrition, caries teeth, enlarged tonsils and errors of refraction.

3. *Lectures in hygiene.*—The school medical officers also delivered lectures on hygiene, sanitation and epidemic diseases common in India to the students of the X and XI classes of the high schools. 1,850 lectures were delivered



during the year and of these 193 lectures were illustrated with magic lantern slides. Attendance at ten such lectures is compulsory for every boy before he is allowed to sit for the Matriculation examination, but as hygiene is not included within the subjects for the Matriculation examination, the lectures do not receive quite the attention they deserve. A good deal of useful information about Public Health subjects is however imparted through these lectures and they are expected to awaken an interest in the minds of the boys for healthy habits and prevention of diseases. During the summer vacation, these officers devoted themselves as in previous years to special propaganda work by arranging lectures and demonstrations for the village Gurus, Maulavis and sub-inspectors of schools in different selected centres.

4. *Inspection of school premises.*—The school and hostel buildings are regularly inspected by the school medical officers during their visit to each school. 307 such school premises were inspected during the year. These inspections have definitely helped in recent years in effecting improvement in the standard of general sanitation of these premises. Provision for sanitary conveniences has much improved and a satisfactory arrangement now exists in most of these schools for drinking water-supply.

The school medical officers during their inspection of each school also look into the arrangements made for the physical exercise, games and suitable sitting accommodations in the class rooms and by their constant advice they try to impress upon the headmasters, guardians and parents that in their zeal to impart mental education, the physical development of the child should not be neglected.

The scheme for providing midday school lunch based on a fee of annas eight per school child per month introduced in Purulia zila school in 1934 has now been taken up by quite a number of the high schools in the province. The system is reported to be working very satisfactorily.

## CHAPTER XI.

### HEALTH PROPAGANDA.

1. *Public Health Bureau.*—The Public Health Department maintains a Public Health Bureau for educating the general public in elementary laws of health and sanitation and in the simple methods of preventing epidemic diseases. The public must understand the “why” of the measures proposed, before they can be expected to take interest in public health matters. The main purpose of the work of the Bureau is to awaken in the people a permanent interest and to carry out measures which will help them to secure health and remain healthy. The Bureau continued to distribute leaflets and pamphlets in different vernaculars on health subjects in the rural areas through the health staff of the districts. Pictorial health posters, models and charts were sent out to be exhibited at the fairs and festivals held in the various parts of the province.

The Bureau issues a short summary of the state of health of the province and the various activities of the department every month to the Information Officer, Government of Bihar, for publication.

All the officers of the Public Health Department, during the course of their tours, carried out health propaganda among the people. School medical officers delivered magic lantern lectures to the boys during their inspection of the schools. Assistant Directors of Public Health, while touring in the rural areas, also gave talks to the villagers on sanitation and the prevention of malaria, small-pox and cholera, etc.

A special health section was organised at the Bihar Provincial Exhibition held at Patna and was largely attended by the people.

The Officer-in-charge, Public Health Bureau, Bihar, delivered lectures on hygiene and public health subjects to the cadets of the Police Training College, Hazaribagh.



*Propaganda by Medical Officers of Health.*—The Health Officer, district board, Darbhanga, delivered a course of lectures on hygiene and sanitation to the stipendiaries of the Co-operative Training Institute at Pusa.

Lectures on sanitation and hygiene were delivered at the different anti-illiteracy centres in Patna.

Lectures on cholera and tuberculosis, their modes of spread and methods of prevention illustrated with lantern slides were delivered at the Rural Welfare Centre, Mihijam (Santal Parganas).

The Health Officer, district board, Saran, carried out educative health propaganda by means of magic lantern demonstrations, charts, posters, leaflets and pamphlets at the Gram Sudhar Mela held at Dewar Parsa under the auspices of Adarsha Sudhar Society, Dewar Parsa, district Saran.

Public Health charts and posters were displayed and leaflets distributed at the Gram Udyog Pradarshani, Dumraon and Baby Show held at Jamalpore.

2. *Red Cross Society.*—The Red Cross Health museum located at the Patna Museum was open to the visitors throughout the year.

The Officer-in-charge, Public Health Bureau, Bihar, attended the Red Cross Health Museum on the Kartik Purnima day and arranged for the distribution of leaflets on public health subjects in English and vernaculars among the visitors.

The Health Museum continued to attract a large number of visitors from all parts of the province. 153,855 persons, as against 143,082 in the previous year, visited the museum from the 1st January 1938 to the 31st December 1938. Of these 23,755 persons visited the museum on the 7th November 1938 on the occasion of Sonapur fair as against 30,939 of the previous year, on the 18th and 19th November 1937. 43,554 persons visited the museum during four days from the 6th to the 9th November 1938.

3. *Tuberculosis.*—In 1932, under the auspices of King George Thanks giving (Anti-Tuberculosis) Fund, a tuberculosis sub-committee was formed at Patna, with the Inspector-General of Civil Hospitals as Chairman and Director of Public Health as Secretary. The object was (i) to educate the public against tuberculosis by pamphlets, posters, charts, slides, etc., (ii), to adopt measures of diagnosis, treatment and prevention. Distribution of pamphlets and posters, etc., were done extensively.

The year 1936 marked the start of real anti-tuberculosis work in Bihar when the King George V Memorial Anti-Tuberculosis Fund was inaugurated at a meeting presided over by His Excellency the Governor of Bihar on the 27th March 1936. Subsequently, the Provincial King George V Memorial Anti-Tuberculosis Association was formed with Maharajadhiraj Sir Kameshwar Singh as President and Inspector-General of Civil Hospitals, Bihar, as Secretary, to combat the tuberculosis problem in Bihar. A comprehensive scheme was drawn up by the working committee of this Association which included both the educative and preventive aspects of the problem. This scheme mainly consists of—

- (1) A central organisation (the Provincial Anti-Tuberculosis Association).
- (2) A working committee to deal with propaganda.
- (3) A local committee at each district headquarters town with an attached Anti-tuberculosis clinic.
- (4) Establishment of Hospital or Sanatorium.
- (5) After-care colonies of discharged cured patients of the Sanatorium.

The work in Bihar is in very active state. A local committee has been formed in each of the 16 district headquarters towns with the District Magistrate as President and generally the Civil Surgeon as Honorary Secretary.

13 Anti-tuberculosis clinics have been opened and are actively functioning in each of 12 district towns, namely, Patna, Gaya, Arrah, Chapra, Muzaffarpur, Purnea, Motihari, Bhagalpur, Monghyr, Hazaribagh, Ranchi,



Chaibassa, and one at Bettiah. The rest of the districts, namely, Santal Parganas, Palamau, Darbhanga and Manbhum, will have Anti-tuberculosis clinics in the very near future. The clinic is situated in a building specially provided and furnished by Provincial headquarters in the Sadr Hospital compound. Each of these clinics is under the administrative control of the District Anti-Tuberculosis Association.

The staff of a clinic consists of---

- (1) A medical officer, graduate in medicine and specially trained at Calcutta in anti-tuberculosis work.
- (2) A male Health Visitor now undergoing training at Calcutta.
- (3) A female Health Visitor—only one appointed at present and is under training.
- (4) A part-time sweeper.
- (5) A part-time peon.

In one clinic, namely at Bettiah, the services of a graduate in medicine specially trained in tuberculosis at the Itki Sanatorium has been secured to work as a wholtime Medical Officer of the clinic.

Besides examining and diagnosing a large number of patients complaining of chest diseases, each clinic through the agency of its Health Visitor has done real educative and propaganda work. The Health Visitor visits the houses of the contacts and brings those who require medical help to the clinic and keeps the suspects under observation. In Patna City alone as many as 700 houses have been visited. Similar work has been done by the other clinics.

Different kinds of leaflets printed in different languages—Hindi, Urdu, Bengali and English—regarding rest, exercise, diet and treatment, etc., have been supplied from the Central Association and are distributed freely through these clinics. Home visitation cards, case cards, etc., are also prepared and printed for daily use in the clinic for record and reference.

School medical officers in their public health and hygiene lectures to the school students lay special stress on the propagation and prevention of tuberculosis.

At melas and public congregations tuberculosis posters and charts, etc., are displayed and explained. Lantern lectures and demonstrations are given by Health Officers.

Private practitioners and doctors are encouraged to take interest in the tuberculosis problem. Every year a number of doctors are sent for post-graduate training at Calcutta under the auspices of the King George Thanks-giving (Anti-Tuberculosis) Fund, New Delhi.

Tuberculosis was made a notifiable disease in Bihar in 1935 by the Bihar and Orissa Municipal (Amendment) Act of 1935 (section 264-A) but no law exists for the prevention of promiscuous spitting or enforcing compulsory segregation of tuberculous patients.

In view of paucity of beds in the hospitals attempts are being made to develop domiciliary treatment for patients attending the tuberculosis clinics. It is proposed that each patient attending the clinic should be provided with a free spittoon and a face mask to minimise the chances of infection to other members of the household. Designs of spittoons and face masks are being worked out. In order to meet the necessity for the supply of cheap milk for the tuberculosis patients it is suggested that the patients should be encouraged to keep goats. A stud goat should be maintained at each clinic and thus help the patients to get better and more milk from improved breeds.

The necessity for institutional beds is being met by providing 50-bedded inexpensive sanatorium at each district centre. The building will be of third class yellow brick erected on pucca cement plinth. This is expected to last ten years and will cost Rs. 27,500 including equipment. The running expenses



are estimated at Rs. 11,000 a year, including pay and service of staff and food for poor patients. Three-fourths of the running cost can be met by allocating 20 to 23 beds for paying patients at the rate of Re. 1 to Re. 1-4-0 per bed per day towards cost of supervision and ordinary medicine excluding food. One such inexpensive sanatorium is very soon going to be constructed at Patna to serve as a model for other districts to follow. At Darbhanga, land has been acquired and a Sanatorium will be built as soon as fund is available.

4. *Lectures on Nutrition.*—A three-day course of lectures on 'Dietary' followed by magic lantern demonstrations were delivered to the rural health staff in the districts of Purnea, Manbhum, Gaya, Shahabad and Darbhanga by the Nutrition Officer during the year. The lectures were delivered at the district board buildings where the subordinate sanitary officers were made to assemble at their respective district headquarters. At the request of the Subdivisional Officer, Madhubani, the Nutrition Officer was deputed to deliver popular lectures on nutrition at the Madhubani Exhibition.

The Nutrition Officer also read a paper on "Vitamin, etc." before a special meeting of the Darbhanga Medical Association at the Medical School lecture theatre.

## CHAPTER XII.

### PUBLIC HEALTH ADMINISTRATION.

1. The statement below shows the receipts and expenditure under the head "39—Public Health (Medical)" for the years 1936-37 and 1937-38.

Head.	Receipts.		Head of expenditure.	1936-37.		1937-38.	
	1936-37.	1937-38.		Budget provision.	Expenditure.	Budget provision.	Expenditure.
1	2	3	4	5	6	7	8
	Rs.	Rs.		Rs.	Rs.	Rs.	Rs.
Sale proceeds of Sera and Vaccine, etc.	43,452	35,268	Public Health Establishment.	1,70,664	1,74,916	1,79,938	1,60,463
			Medical examination of scholars and teaching of hygiene in high schools.	39,778	35,707	40,810	29,598
			Bubonic plague ...	7,000	6,615	7,000	8,806
			Malaria ...	9,000	24,061	9,000	8,073
			Other epidemic diseases	1,38,633	1,07,017	1,37,047	1,12,686
			Publicity campaign...	1,840	1,719	1,876	1,828
			Public Health Laboratories.	18,129	15,218	18,582	17,865
			Total ...	3,85,249	3,65,253	3,84,253	3,39,319

All requisitions of the Director of Public Health were met by the Government and funds were made available in most cases.

2. The three Assistant Directors of Public Health, one for South Bihar Circle with headquarters at Patna, one for North Bihar Circle with headquarters at Muzaffarpur, and one for Chota Nagpur Circle with his headquarters at Namkum in the Ranchi district, continued to function as in previous years.

The Assistant Directors of Public Health are employed to investigate into the epidemics, suggest measures of control and to see that the actions are adequate to combat the epidemics. They also supervise the prophylactic



measures such as vaccination, cholera and plague inoculations. They inspect and report on all nuisances occurring in their areas. A systematic inspection of all local bodies, fairs and melas and high schools are included in their legitimate duties. They also carry out propaganda work by lectures and magic lantern demonstrations. Regular inspection of mines and factories in their respective circles have also been added to the routine duties of the Assistant Directors of Public Health. The supervision and advice rendered by these officers have done much in recent years to assist the local bodies in effecting improvement in sanitation and health of the areas.

There are four school medical officers and four assistant school medical officers for the four divisions of the province. There is also a lady school medical officer for the girls' schools. In addition to her own duties she is also employed as Medical Inspectress of Factories in accordance with the recommendation of the Royal Commission on Labour to examine the health of the female employees of factories in Patna district.

Epidemic doctors of sub-assistant surgeon grade are employed temporarily by Government and they are detailed to help local bodies in combating epidemics in the province. Over and above these, one hundred reserve of vaccinators are provided for duties in the districts, who in addition to vaccination work are also trained to carry out disinfection during epidemics.

A medical officer of health is in charge of the Public Health Bureau which is attached to the office of the Director of Public Health. He contributes popular articles to the press on public health subjects and prepares and distributes posters, pamphlets and leaflets to the local bodies. He delivers lectures on hygiene to the police cadets at the Police Training College, Hazaribagh, and also at melas and fairs with the aid of magic lantern slides.

Seven medical officers of the Government Public Health cadre have been lent to the district boards of Muzaffarpur, Saran, Champaran, Gaya, Bhagalpur, Shahabad and Darbhanga to work as health officers of the district boards. A medical officer of health of the Department was deputed to work as a Chief Medical Officer of Health, Jharia Mines Board of Health, in place of the permanent incumbent who had resigned.

Three medical officers of the cadre have also been lent to the municipalities of Patna, Gaya and Ranchi to work as health officers.

A medical officer was also employed as Chemical Analyst at the Public Health Laboratory where water and articles of food are analysed. A medical officer of the cadre has also been appointed as Officer in charge of the Bacteriophage Laboratory and a medical graduate has been temporarily appointed as his assistant.

A medical officer of the cadre also works as Superintendent of Vaccine Depot at Namkum. Vaccine lymph is manufactured and distributed throughout the province from this depot.

A medical officer worked as Nutrition Officer.

### CHAPTER XIII.

Annual Vaccination Report is submitted as an annexure to this report.

### CHAPTER XIV.

#### OTHER PUBLIC HEALTH SERVICES.

1. *Jharia Mines Board of Health.*—The Jharia Mines Board of Health controls the sanitation of Jharia and the neighbouring areas which extend over an area of 787 square miles and covers the whole of the Dhanbad subdivision with the exception of the Dhanbad municipality. According to the census of 1931, the population of this area is 504,376 and the corrected population for 1938 excluding that of the municipality of Dhanbad is 541,559 as against 537,892 of 1937.

The total number of births during the year was 14,736 giving a birth-rate of 27.21 as against 27.56 of the previous year while the total number of deaths was 8,847 recording a death-rate of 16.34 as against 15.50 of the preceding year. The death-rate was increased by 0.84 due to the increase in



the number of deaths from malaria, dysentery, diarrhoea and cholera. The infant mortality rate was reported to be 115 as compared with 92 in the previous year.

The total number of deaths from cholera, small-pox, fevers and respiratory diseases was 30, 17, 6,517 and 245 respectively, as against 14, 6, 6,114 and 279 of the preceding year. 400 cases of venereal diseases were reported among coolies and labourers and a large proportion of the fever deaths is presumed to have occurred as usual from malaria. The preventive measures against cholera and small-pox were taken by the health staff of the mining board. 10,232 anti-cholera inoculations and 19,845 vaccination operations were performed during the year.

*Drainage.*—The drainage scheme continued to be in full functioning order during the year and steps were taken to construct road-side drains in Poddar Kulhi and Jharia.

*Water-supply.*—In the course of the year, 8 more collieries were connected to the Jharia Water Board mains, bringing thus the total number of the connected collieries to 200. It is considered that the collieries not yet linked up with Jharia Water Board supply constitute a source of danger to the neighbouring ones. Notices were, therefore, served on three collieries by the board requiring them to link up with the Jharia Water Board mains. The board reserved one tank for drinking water-supply at Katras throughout the year. Ten tanks were also reserved for this purpose in the colliery area during the cholera season.

*Sanitation.*—Two rubbish lorries for carrying the refuse to the dumping ground were maintained throughout the year in Jharia town and steps were taken to replace the existing old lorries by new ones. Refuse carts, some with pneumatic tyre equipment, were also maintained for the narrow lanes where the lorries find it difficult to ply. All the 120 public latrines provided by the board were maintained in satisfactory state of repairs throughout the year.

*Housing.*—The five-year housing programme of the board introduced in 1936 remained in force during the year under report. Licenses for 29·16 dwelling houses were issued during the year and of these 27,167 licenses were issued for permanent structures.

*Maternity and Child Welfare.*—The work in connection with child welfare scheme was continued as in the previous year. The whole area is divided in three circles, namely, Sijua, Kenduadih and Jharia. Sijua circle has four centres while Kenduadih has six centres and Jharia circle has one centre. Three qualified health visitors were in charge of these circles. They regularly visited the centres, supervised ante-natal and post-natal conditions and conducted the practical training of the indigenous *dais*. Most of the normal labour cases were attended by the *dais* who had received training in previous years. These *dais* have all been supplied with fully-equipped boxes containing outfit required for conducting normal labour cases and are given annas four as a reward from the board's fund for conducting each labour case under the supervision of health visitors. Soap, milk and stock mixtures were also distributed to mothers and children at all centres throughout the year.

*Food adulteration.*—454 samples were analysed at the board's laboratory and 85 of these were found to be adulterated. 72 prosecutions were instituted and of these convictions were obtained in 50 cases.

*Leprosy.*—In addition to the four clinics already functioning, one each at Pandra, Jharia, Tetulmari and Dhanbad, a new clinic was started at Telmucho on the 4th May 1938. With the exception of the clinics at Jharia and Dhanbad which continued to be held twice a week, the clinics at the other three centres were held once a week. 704 new patients attended the clinics and altogether 30,259 treatments were given at these centres.

2. *Public Health Laboratory.*—During the year 3,640 samples were examined chemically and bacteriologically as compared to 2,905 of the previous year. Of these, four samples were received from private bodies. 50 samples of ghee received from the districts of Shahabad, Muzaffarpur, Darbhanga, Saran, Purnea, Champaran, Santal Parganas and Singhbhum were analysed for experimental purposes.



*Water.*—1,331 samples of water were examined bacteriologically of which 501 samples were also examined chemically. The following shows the sources and the number of water analysis done during the year :—

Waterworks	..	..	..	..	1,096
Jails	..	..	..	..	116
Other sources	..	..	..	..	119

*Food-stuffs.*—The total number of samples examined was 2,284 as opposed to 1,645 of the previous year. The samples were received from the 15 districts of the province. Only Cuttack and Puri districts of Orissa sent samples this year.

*Ghee.*—867 samples of ghee were analysed as opposed to 696 of the previous year. Of these, 50 samples were analysed for experimental purposes. Out of 817 samples analysed under the Food Adulteration Act, 342 or 41·86 per cent were found below the standard or adulterated as opposed to 52·87 per cent of the previous year.

*Mustard oil.*—903 samples were analysed out of which 200 or 22·15 per cent were found below the standard or adulterated as opposed to 12·98 per cent of the previous year.

*Sweetmeats.*—140 samples of sweetmeats (*Mithai, Puri, Kachuri, etc.*) were examined with a view to find out if they were made of pure ghee, or oil. Out of 140 samples analysed, 74 or 52·86 per cent were found to have been made of adulterated ghee or oil as opposed to 69·29 per cent of the previous year.

*Milk.*—79 samples of milk were examined of which 39 or 49·11 per cent were found to be adulterated as opposed to 65·71 per cent of the previous year.

*Atta.*—222 samples of wheat-flour were examined which were all found genuine.

*Miscellaneous.*—73 samples of miscellaneous articles, i.e., tea, butter, oils of different kinds, etc., were analysed with the following results :—

Samples of—				Genuine (or up to standard).	Adulterated or below standard.	Doubtful purity.	Total.
Ground-nut oil	..	..	..	24	1	..	25
Sesame oil (Til oil)	..	..	..	2	..	1	3
Cocoanut oil	..	..	..	2	..	..	2
Linseed oil	..	..	..	4	3	1	8
Kachra oil	..	..	..	3	..	..	3
Butter	..	..	..	..	2	1	3
Tea	..	..	..	4	..	..	4
Barley	..	..	..	1	..	..	1
Sago	..	..	..	6	..	..	6
Suji	..	..	..	3	..	..	3
Sugar	..	..	..	2	..	..	2
Rice	..	..	..	1	..	..	1
Vegetable product	..	..	..	7	1	2	10
Gur (molasses)	..	..	..	2	..	..	2
Total	..	..	..	61	7	5	73



*Medicine, disinfectants, etc.*—Two samples of bleaching powder, three samples of E. C., one sample of Berchloron, two samples of Maxchlor were analysed for determination of available chlorine. One dead rat sent for examination for plague bacilli from Shahabad district was examined but no plague bacilli was found to be present. Six samples of sand from the district of Singhbhum were also analysed. Ten samples of malaria and quinine mixture were analysed to find out the amount of quinine in the mixture.

*Staff.*—The post of Chemical Analyst was held by Dr. S. C. Roy, B.Sc., M.B., D.P.H., throughout the year. The rest of the staff were the same as towards the end of the last year.

#### STATEMENT SHOWING DETAILS OF THE EXAMINATION.

##### CHEMICAL EXAMINATION.

Water	..	..	..	..	501
Ghee	..	..	..	..	867
Mustard oil	..	..	..	..	903
Sweetmeats	..	..	..	..	140
Atta (wheat flour)	..	..	..	..	222
Milk	..	..	..	..	79
Vegetable product	..	..	..	..	10
Sesame oil	..	..	..	..	3
Ground nut oil	..	..	..	..	25
Linseed oil	..	..	..	..	8
Cocoanut oil	..	..	..	..	2
Kachra oil	..	..	..	..	3
Butter	..	..	..	..	3
Tea	..	..	..	..	4
Barley	..	..	..	..	1
Sago	..	..	..	..	6
Suji	..	..	..	..	3
Sugar	..	..	..	..	2
Gur	..	..	..	..	2
Rice	..	..	..	..	1
Bleaching powder	..	..	..	..	2
Electrolytic chlorogen	..	..	..	..	3
River sand	..	..	..	..	6
Malaria mixture	..	..	..	..	3
Quinine	..	..	..	..	7
Perchloron	..	..	..	..	1
Maxchlor	..	..	..	..	2
Total					2,809

##### BACTERIOLOGICAL EXAMINATION.

Water	..	..	..	..	830
Rat for plague bacilli	..	..	..	..	1
Total					831
Grand total					3,640

As the Food Adulteration Act was extended to the different places from where no samples used to come before the number of samples received for analysis had gradually increased.

*Analysis of excisable articles.*—The Excise Laboratory completed the fourth year as its existence. During the year 667 samples of excisable articles were analysed. All the samples were from the province of Bihar and



none from Orissa. The samples consisted of distillery samples, indigenous and B. P. medicinal preparations, instruments and the exhibits sent by the various Criminal Courts. Fees were charged for the analysis of distillery samples. A new firm for the manufacture of B. P. medicinal preparations was established at Monghyr and samples were regularly received from that concern.

**3. Bacteriophage.**—The Bacteriophage Laboratory was mainly engaged in the production of cholera phage on a large scale as in the previous year. 160,350 phials of cholera phage of 50 c. c. each, were prepared and 119,402 phials distributed during the year on requisitions received through the Director of Public Health to various towns and districts of the province. Cholera phage was also prepared in ampules of which 1,100 were issued during the year. Cholera phage was supplied free to all the local bodies in the province and a sum of Rs. 9,750 was contributed by them towards the cost of its production. Bacteriophage worth Rs. 3,976 was also sold to private individuals and to Orissa Government as against Rs. 4,427 during the previous year. The decrease was due to the quantity of phage supplied to Orissa being less than in the previous year. 2,130 phials of dysentery phage, 50 c. c. each and 800 ampules of 5 c. c. each were produced, out of which 1,575 phials and 626 ampules were issued. Typhoid phage on a small scale was also produced and issued. Besides the production of cholera phage, the basic research on bacteriophage was continued.

**Researches on Typhoid phage.**—Typhoid phage was prepared from various sources such as from sewage and the stools of enteric patients. Five pure types of typhoid phage, three pure types of Para A phage and three pure types of para B phage were separated. It is interesting to note that the pure types of typhoid phage separated from Patna Sewage lysed the Para A and B strains. Subsequently various other typhoid phages were found not to be type specific. This phenomena probably is due to some common factor existing between them. Burnet has shown that there is some relation of sensitivity to phage with the antigenic structure. But probably this is not the only factor that determines the phage action.

To obtain the maximum concentration in the propagation of phage the proportion of culture to phage was worked out. It was found that the proportion was similar to that worked out for cholera and dysentery phage propagation.

The roll of different carbohydrates for the production of cholera phage was worked out as in the previous years and it was found that lactose and glucose helped to increase the final concentration of phage suspension. Similarly glucose was found suitable for the propagation of dysentery phage. As cholera and dysentery organisms are non-gas producers no obnoxious smell is observed in the media. In case of propagating typhoid phage mixed with para A and para B phages, media containing glucose could not be used because the latter two organisms produce gas in the glucose media and smell was very obnoxious. After various trials lactose was found to be better than the media containing no carbohydrates and the concentration of the phage bodies usually obtained is more than  $5 \times 10^9$  per c. c. and in the activity test the lysis is complete in one and half hour.

**Experiments to find out if any, other organisms is associated with Cholera Vibrios Cholera.**—This experiment has started and every stool obtained from clinical cholera cases was plated on bile salt media and on Mac-Conkey's media. Some of the non-lactose fermenters were picked up and their character studied in every case. If an organism is really associated with V. cholerae it should be found at least in the majority if not in all the cholera positive stools. It requires an observation on a large number of cholera stool of different epidemics before any light is thrown on this point. This experiment is being continued.

**Possibility of using phage in place of vaccine for the production of active immunity.**—Two batches of rabbits were taken for this experiment. Three doses 0.5 mg., 1 mg., and 1 mg. of dried Inaba 'O' antigen were injected intravenously at an interval of four days.



The second batch of rabbits were inoculated with 0·5, 1, 1 c.c. of phage mixture ( $1 \times 10^{10}$ ) per c.c. at the same interval. Blood was taken seven days after the last injection and the serum was tested for anti-bodies (agglutinius).

It was almost always found that the titer was high in the rabbits inoculated with *V. cholerae* while it was very low in the phage inoculated series. This result is contrary to the accepted view and so the experiment is being repeated after modification.

*Testing of Vaccine Lymph prepared at Namkum, Ranchi.*—This laboratory took up the bacteriological examination of vaccine lymph prepared at Namkum at the end of the year.

Dr. S. K. Chatterji was on study leave in England throughout this year and Dr. L. R. N. Shah Deo carried on the work of the laboratory as Officer-in-charge.

Due to the heavy demand of choleraphage throughout the province the laboratory had to work very hard in order to cope with the demand and the whole of the laboratory staff ungrudgingly carried out the extra work.

*Field work on Choleraphage.*—The use of choleraphage was introduced in this province nine years ago. The results of its use both as a curative agent as well as a prophylactic agent appeared to be highly encouraging and since then its use has been extended to the province in an increasing degree. It is now definitely found that its use as a curative agent gives the best results even in the rural areas when used in early stages of the attack, but when dehydration has taken place and collapse has set in, its use needs supplementing with transfusion of saline. As a prophylactic agent it invariably cuts short the epidemics, provided immediate steps are taken to phage the total population exposed to the infection.

4. *Nutrition Research.*—The Nutrition Scheme was sanctioned by Government at the beginning of the financial year. A Nutrition Officer was appointed and after giving practical training to the staff at the Public Health Laboratory, field work in connection with the scheme, was started from July 1938.

The food intake of 177 family units consisting of 845 persons in the different parts of Jamshedpur was surveyed. The amount of the different food stuffs were weighed daily for a period of 15 days in each of the families. Of the families surveyed a large majority were natives of this province; a few others from outside were included for purposes of comparative study. The important deficiency noticed was the lack of green leafy vegetables in the dietary irrespective of the economic status of the respective bread winners or 'earners'. This defect could easily be remedied if the householders took to maintaining a modest kitchen garden consisting of a few creepers and plants like Kaddu, Kohra, or Gandhari, Tharia sag, etc. The lack of sufficient animal protein (milk, eggs, meat or fish) was also noticeable. It is quite understandable that lowest income groups (upto annas 0-12-0, Re. 1 or Rs. 1-8-0 daily) could not afford to consume enough of these costly edibles but one fails to account for their non-inclusion in adequate amount in the highest income group (over Rs. 3 per diem). Proper adjustment of the food budget in the light of modern knowledge can only be possible if the workers are enlightened on the advantages of healthy food habits.

A little over 2,000 children (including boys and girls) were examined at Jamshedpur. Only 13·9 per cent of the children were found malnourished. The incidence of the various diseases said to be associated with faulty feeding are noted below :—

Carious tooth	...	...	..	29·8 per cent.
Malocclusion of teeth	..	...	..	15·5 „
Xerophthamia	...	..	...	6·2 „
Angular stomatitis	...	...	...	3·1 „
Phrynoderma	...	...	..	1·3 „



The American Child Health index was also tried with the special tap measure and wooden callipers but it was found that far too many children were 'selected' as malnourished than could be corroborated by clinical examination as to the incidence of deficiency diseases. The standard prescribed by the American Child Health Association seemed to be an unsuitable index of malnutrition as far as the local boys were concerned.

From the middle of October till the close of the year diet and nutrition surveys were being carried out in the district of Santal Parganas. In non-damin area diet survey was carried out amongst 102 families consisting of Sonthals, Mahalis and Doms, whereas in damin area 38 Santal families and 39 Malpahari families were surveyed. During the last week of December diet and nutrition survey was started amongst the Sawaria Paharia. About 1,700 children were examined as to the state of their nutrition. Along with this work diet survey in college hostels were also being carried out.

Of the forty edibles examined in the laboratory as to their food value it was found that the cereal grains were deficient in calcium, except marooa (*Elousine coracana*). Unfortunately this grain is associated with social taboo and as such is rarely used by the middle classes. Lawa or puffed paddy was also found to be comparatively rich in mineral salts. All sattoos were found to be rich in protein and mineral matter. These powdered grain foods need only water to make them into a dough, which with a pinch of salt and green chillies make an excellent and wholesome repast on occasions when cooking becomes inconvenient or impossible.

Boont sag and Khesari sag, when still tender were found to be rich sources of calcium. The custom prevalent in rural areas of eating the leaves in raw state is indeed a healthy practice amongst village folk and deserves emulation. The gur from sugarcane contains calcium in moderate amount. Probably a part of the lime used during clarification is retained as salts of calcium.

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## CHAPTER XV.

### GENERAL REMARKS.

1. *Epidemic dropsy*.—Beri-Beri or epidemic dropsy did not occur in epidemic form in any of the district of Bihar during the year under report. Sporadic cases were however reported from Bhabua and Sasaram. For the last 4 or 5 years there have been a few cases of Beri-Beri in Bhabua every year and the cases were probably imported from Benares. A mild outbreak of Beri-Beri occurred among the inmates of the hostel of the Badshah Nawab Razvi Training School, Gulzarbagh. The outbreak was investigated by the Health Officer, Patna City Municipality and the dietary supplied to the girl students was found defective. As a result of the report of the Health Officer suitable measures were taken to improve the diet. No death from Beri-Beri was reported from any place in the province.

2. *Leprosy relief*.—The Bihar Leprosy Relief Committee was constituted by the Government of Bihar in 1926 at a Provincial Branch of the British Empire Leprosy Relief Association to receive and expend fund received from the Indian Council and discharge all duties connected with leprosy work in the province. The annual meeting of the committee was usually held during the year under report, but this time it was held on 30th January 1939 i.e., after the close of the year.

There were 44 outdoor leper clinics in the year against 41 in 1937. At these clinics 9,598 patients were treated during the year under report against 17,967 in the previous year.

The number of leper asylums in the province remained the same i.e., seven as in the previous year. In addition to the out-patients treated at the above-mentioned outdoor clinics 2,223 inpatients and 2,843 out-patients were treated in these asylums during 1938, against 2,415 in and 2,843 out-patients of 1937. Marked improvement was observed in those cases who



were treated early and regularly, but early cases rarely attend the clinics in some places while advanced cases are predominant. Patients were instructed by lectures and posters regarding the benefit of the treatment and the precautions they should observe both for themselves and the public.

During the year two sub-assistant surgeons were sent to the Calcutta School of Tropical Medicine and Hygiene for special training in leprosy.

As in the previous year a course of lectures in leprosy was delivered to the students of the Prince of Wales Medical College, Patna, at the Gait Skin Clinic, Gulzarbagh by the medical officer in charge. The senior students of the Darbhanga Medical School also received instruction in leprosy at the Darbhanga Leprosy Clinic.

Magic lantern lectures were given on the prevention of leprosy in educational institutions as well as in melas and the attendance on the whole was satisfactory.

Medical officers in charge of clinics did propaganda for anti-leprosy work by lectures, illustrated with magic lantern slides.

In Champaran the survey work and following up the cases were done by the medical officers in charge of the clinics.

In order to keep in touch with the old patients and discover new ones a survey was carried on by the staff of the Saldaha Leper Colony in the district of Santal Parganas through weekly visits to the villages of the near district. 33 new cases were found and 92 old patients urged to continue treatment. In all 33 villages were surveyed.

Purulia Leper Home and Asylum showed marked progress in its activities. The outstanding feature was the great increase in the number of children who came for treatment. There were 103 leper children in residence and in the first six months of 1938 no less than 33 children offered for curative treatment at the out-patient clinic. This was a most promising feature and before the end of 1938 a new infectious care girls home was occupied increasing accommodation by ten.

The number of leper in-patients in residence was consistently over 800 for the first time in the history of this institution.

A new hospital ward at the Saldaha Leper Colony is under consideration.

Plans are now under preparation for converting the old bungalow at the Bhagalpur Leper Asylum into up-to-date treatment centre complete with laboratory operating theatre, etc.

A sum of Rs. 1,000 was received from a gentleman for the creation of an endowment fund and Rs. 2,500 from another gentleman for the construction of a male ward at the Raj Kumari Leper Asylum at Deoghar.

3. *Inspection of Mines.*—Assistant Director of Public Health, South Bihar Circle, inspected ten Lime Stone Quarries in the district of Shahabad as an *ex-officio* Inspector of Mines under the Mines Act and submitted reports on his inspections, copies of which were forwarded to the Chief Inspector of Mines.

4. *Rural and urban housing conditions.*—The houses in the villages mostly remain in the same condition as they were decades ago. Most of them consist of two or three roomed huts with mud walls, mud floors and thatched roofs. A few of the roofs are tiled and belong to the prosperous land-owning classes. The huts are mostly badly designed and are often huddled together in more or less compact area, situated in the midst of the fields which provide means of livelihood. They are usually located on high grounds as precaution against floods. The villagers sleep outside during the hot and dry months of the year, but they aggregate together for warmth inside their huts during the winter months. Cattle are kept near some of the huts but in most cases cattle, goats, fowls and dogs share the huts with the people. No building rules or bye-laws are enforced in the rural areas. There are no regular roads



inside the villages. The lanes and pathways, as they are in existence are not paved and become muddy in the wet weather. No organised conservancy service exists in the villages. The lanes and pathways are seldom swept and refuse and house sweepings are deposited for the most part on some convenient spot either in or outside the huts. There are no latrines. The fields and vacant plots of land in close proximity to the villages often within a few yards from the huts, are used for purpose of nature. Cow-dung on account of its value as a manure is also stocked either inside the hut itself or somewhere very near it. Some of the fairly well-to-do inhabitants use pit privies which are known as Sandas. The housing conditions in the urban areas are very much better. The urban population mainly consists of the rich land owners who in most cases being dissatisfied with the lack of modern amenities in the villages have migrated to the towns. Business or professional men and various Government servants, all of them being placed in a prosperous position in life, have provided for themselves much more higher standard of living and better houses to live in. Building regulations and bye-laws are enforced in all the municipalities and provisions are laid thereunder for the various sanitary arrangements. An organised conservancy service exists in most of the municipal towns and piped water-supply is also available in some of the bigger towns, namely, Gaya, Patna, Bhagalpur, Muzaffarpur, Monghyr, Arrah and Daltonganj.

Assistant Directors of Public Health regularly visit the rural areas and the municipalities. During their tours they look into the working of district and municipal health organisations and investigate into nuisances, if any, and suggest measures to remedy the same. Copies of the Assistant Directors of Public Health reports are sent to the District Magistrates, Divisional Commissioners concerned and to Government. These reports serve as the only means to know the state of sanitation in the municipal and rural areas and the action taken by the local bodies to remove the defects pointed in the reports.

5. *Personal proceedings and office.*—Lieutenant-Colonel S. L. Mitra, I.M.S., held charge of the office of the Director of Public Health throughout the year. Of the Assistant Directors of Public Health, Rai Bahadur Dr. B. P. Mozoomdar was in charge of the Chota Nagpur Circle from 1st January 1938 to 9th October 1938 and Rai Sahib Dr. A. N. Chatterji from 10th October to the end of the year. While Rai Sahib Dr. A. N. Chatterji remained in charge of the North Bihar Circle from the 1st January to 2nd September 1938, Dr. A. Rahman from 3rd September 1938 to 22nd October 1938 and Captain A. W. West, I.M.S., from 23rd October 1938 to the 31st December 1938 while Khan Sahib Dr. S. M. Rahman remained in charge of South Bihar Circle from 1st January 1938 to 16th October 1938 and again from 1st December 1938 to 31st December 1938 and Rai Bahadur Dr. B. P. Mozoomdar was in charge of this circle from 17th October 1938 to 30th November 1938.

6. *Touring.*—During the year the Director of Public Health was on tour for 60 days and the Assistant Directors of Public Health, South Bihar, North Bihar and Chota Nagpur Circles, for 122, 161 and 160 days, respectively.

7. *Personnel.*—In conclusion I would like to bring to the notice of Government good work done by the Assistant Directors of Public Health and my Personal Assistant. Rai Bahadur Dr. B. P. Mozoamdar, Rai Sahib Dr. A. N. Chatterji, Khan Sahib Dr. S. M. Rahman and Dr. H. Prasad gave further proofs of their reliable work. The work of Drs. Azizur Rahman, D. B. Mookerji and Gobind Prasad has been commendable.

S. L. MITRA, LT.-COL., I.M.S.,  
*Director of Public Health, Bihar.*



# ANNUAL VACCINATION REPORT

OF THE

Province of Bihar for the year 1938-39.

1. The statistics in the Vaccination Report are for the financial year while the statistics in the Annual Public Health Report are for the calendar year. The arrangement facilitates the inclusion of the figures for the complete vaccination season from October to March in the Vaccination Report.

2. *Staff.*—Lieutenant-Colonel S. L. Mitra, I.M.S., held charge of the office of the Director of Public Health throughout the year.

The whole province is divided into three circles for the purpose of Public Health Administration, namely, South Bihar, North Bihar and Chota Nagpur. Each is under the charge of an officer of the rank of the Assistant Director of Public Health. Rai Bahadur Dr. B. P. Mozoomdar was in charge of Chota Nagpur Circle from 1st April 1938 to 9th October 1938 and Rai Sahib Dr. A. N. Chatterji from 10th October 1938 to 31st March 1939. Rai Sahib Dr. A. N. Chatterji was in charge of North Bihar Circle from 1st April 1938 to 2nd September 1938. Dr. A. Rahman from 3rd September 1938 to 22nd October 1938 and Captain A. W. West, I.M.S., from 23rd October 1938 to 31st March 1939. Khan Sahib Dr. S. M. Rahman was in charge of South Bihar Circle from 1st April 1938 to 16th October 1938 and from 1st December 1938 to 31st January 1939 and Rai Bahadur Dr. B. P. Mozoomdar from 17th October 1938 to 30th November 1938 and from 1st February 1939 to 31st March 1939.

The provincial vaccination inspecting staff consisted of nine district inspectors and 20 sub-inspectors of vaccination. The total number of vaccinators employed during the year was 1,178 of whom 80 were employed in towns and 1,098 in rural areas. Vaccination is performed by paid vaccinators in the municipal areas while licensed vaccinators are generally employed to perform vaccination operations in the rural areas. Each district has been divided into suitable small areas (elakas) and a licensed vaccinator who also has an apprentice with him is permitted to carry out vaccination within his area or elaka. The licensed vaccinator is allowed to charge a fee of annas two to four for each vaccination operation performed in the houses. There are also free vaccination depots in areas where the Vaccination Act has been introduced and these are attended by the vaccinators on fixed days in a week and no fee is charged for carrying out vaccination at these depots. Besides these licensed vaccinators, paid vaccinators are also employed by the local bodies for short periods to deal with outbreaks of small-pox. Over and above these, Government provide for the temporary appointment of one hundred paid vaccinators every year and the Director of Public Health sanctions the appointment of these vaccinators by the local bodies or the Civil Surgeons for such periods as are considered necessary for combating epidemics.

3. *Operation performed.*—1,500,764 vaccination operations were performed during the previous year as against 1,369,749 during the previous year. This shows an increase of 131,015 in the number of operations as compared with the figure for 1937-38.

There was an increase of 4,015 in the number of prima operations and an increase of 127,000 in the number of re-vaccinations done during the year under report. Of the total operations performed 75.87 per cent were successful as against 79.60 in the previous year.

1,464,040 operations were performed by the vaccination staff as against 1,329,048 done in the preceding year. Of these 991,725 were primary and 472,315 re-vaccinations as against 987,853 primary and 341,195 re-vaccination in the preceding year. Although vaccination is generally recognised as the only preventive measure against small-pox, it has



not yet become as popular as it should be with the masses in the province. When small-pox breaks out in an epidemic form, the people show some degree of willingness to get their children vaccinated, but when the epidemic is absent the incentive is much less and the number of vaccinations performed also falls. This is illustrated by the fact that during 1926-27 when the disease broke out in an epidemic form, a greater number of vaccination was recorded, but the number of operations fell during 1928-29 when fewer cases of small-pox occurred. Again during 1932-33 when an epidemic of small-pox prevailed in the province, number of vaccinations increased by 368,090 operations over those performed in the preceding year while during the year 1934-35 which happened to be a milder year for small-pox, the total number of vaccination of operations appear to have been proportionately less and in the year 1935-36, 164,049 more operations were performed than the preceding year. In 1936-37, 1,586,143 operations were performed. During the years 1937-38 and 1938-39, a total of 1,369,749 and 1,500,764 operations, respectively, were performed.

4. *Vaccination in municipalities.*—The number of operations performed in municipalities increased by 60,881 as compared with last year's returns. The total number of operations performed was 156,831 and the number of successful operations was 61,816 of which 38,039 were primary and 23,777 re-vaccinations, as against 35,565 and 16,181, respectively, in the previous year. The ratios of success in municipalities were 96·88 per cent for primary operations and 34·90 per cent for re-vaccinations as compared with 93·54 per cent and 27·93 per cent, respectively, of last year.

5. *Vaccination in districts.*—The number of operations performed in rural areas was 1,307,209 as compared with 1,233,098 in the preceding year and the ratios of success were 99·55 per cent for primary operations and 63·48 per cent for re-vaccination.

The district of Patna reported a decrease of 9,248 and the districts of Gaya and Shahabad reported an increase of 6,126 and 4,580, respectively. The districts of Muzaffarpur, Darbhanga, Saran and Champaran recorded increases of 75,285, 7,243, 3,616 and 11,880, respectively. In all these districts vaccination is controlled by the health officers of the district boards.

The districts of Bhagalpur, Santal Parganas and Purnea recorded increases of 4,124, 1,560 and 8,396 in the number of vaccination operations performed in these districts, respectively, and the district of Monghyr recorded a decrease of 999. Vaccination in the rural areas of the districts of Bhagalpur and Purnea is controlled by the health officers of the district boards, but the Civil Surgeons still function as Superintendents of Vaccination in the districts of Monghyr and Santal Parganas.

The districts of Ranchi, Manbhum and Singhbhum recorded increases of 3,669, 19,621 and 16,223, respectively, while the districts of Hazaribagh and Palamau recorded decreases of 1,757 and 19,298, respectively. The Civil Surgeons still continue to be the Superintendents of Vaccination in the districts of Ranchi, Hazaribagh, Singhbhum and Palamau because Health Organisation Scheme has not yet been introduced in these districts. Vaccination in the rural areas of the district of Manbhum is controlled by the health officer of the district board.

6. *Vaccination in towns and compulsory areas.*—Statement V shows that during the year 13,686 children under one year of age out of an available number of 23,503 or 58·23 per cent were successfully vaccinated.

The towns of Barh, Buxar, Dumraon, Jagdishpur, Chapra, Sitamarhi, Hajipur, Lalganj, Darbhanga, Samastipur, Forbesganj and Raghunathpur show the smallest proportion of vaccination work done.

7. *Protection of infants.*—During the year under report the number of children under one year available for vaccination was 984,300 and the number of successful operations was 280,248 or 284 per thousand as against 273,292 or 277 per thousand successful operations out of 985,682 available children during the previous year. The protection of infants in municipalities is



separately shown in statement V. It gives a ratio of successful vaccination 582 per thousand of the surviving infant population as compared with 618 per thousand in the previous year.

These figures still remain unsatisfactory inasmuch as they show that nearly three-fourths of the total number of infants under one year were left unvaccinated in the rural areas and little less than two-fifths in the municipal areas. This is attributed to the common prejudice of the people against vaccination at an early age. Though primary vaccination has been made compulsory in the majority of the districts and all municipal towns in the province, vaccination of the infants and children is avoided by many people. There are obvious advantages in retaining the present age limit to one year for compulsory primary vaccination. No untoward complication occurs after early vaccination and the people should be educated in the benefit of early vaccination because the sooner an unprotected child is vaccinated, the quicker it acquires protection against the disease and ceases to remain a source of danger to the community.

8. *Incidence and mortality of small-pox.*—The total number of deaths that occurred from small-pox in the province during the last ten years was 134,671.

During the first five years the number of deaths was 65,561 while during the next five years 69,110. In each of the last five years the mortality was as follows :—

16,871, 21,179, 18,216, 6,877 and 5,967. The provincial ratios of the mortality from small-pox per thousand population during the last five years have been 0.52, 0.65, 0.56, 0.21 and 0.18. There was a decrease in the incidence of small-pox in the province in 1927-28. In 1928-29 there was a further reduction and in 1929-30 there was a still further reduction in the number of cases. In 1930-31 there was a small increase over the figure of 1929-30. In 1931-32 there was a further increase over the figure of 1930-31. In 1932-33 there was still further increase and in 1933-34 there was recorded a great increase over the figure of 1932-33, in 1934-35 the mortality figure fell down considerably. In 1935-36 the figure was slightly more than the preceding year. In 1936-37 the figure was less than the figure of 1935-36. In 1937-38 and 1938-39 the mortality figures fell down considerably.

9. *Prevention of small-pox.*—The proportion of vaccinated persons in the province still remains far below the figure necessary to prevent epidemic outbreaks and although the total annual vaccination operations amount approximately to two millions or so, these are quite insufficient to ensure the immunity of the total population against small-pox. Hence the incidence of this fell disease continues to remain high. This state of affairs is not so much due to insufficiency or inefficiency of the existing arrangement for vaccination in the province, but is chiefly due to the inherent apathy of the public towards this simple and efficient method of protection. Small-pox is a preventable disease and vaccination can prevent it. In the light of this knowledge and in face of the unsatisfactory vaccination state of the people there is a great necessity for a more vigorous and complete vaccination policy. Primary vaccination has been made compulsory for many years in all municipal towns, but all the provisions of the Act do not appear to be rigidly enforced with the result that a great proportion of the children do not get vaccination until they cross the first year of their lives. Besides, a large number of unvaccinated persons are to be found in every municipal town.

The incidence of small-pox can be definitely prevented provided repeated vaccinations are practised, but re-vaccinations are always accepted with reluctance and the people do not seem to realise that immunity conferred by primary vaccination wears out within 5 to 7 years. Thus during epidemics the percentage of protected persons is small and not until the diseases has



had its toll that the public realise the importance of re-vaccination. Vaccination operations are easily done and generally cause no complications. No case of encephalitis following vaccination has so far been recorded in this province.

All the district boards which have health organisation schemes, have now assumed the responsibility of the control of vaccination in the rural areas and the cost of running the vaccination schemes is insignificant.

The Bengal Vaccination Act is enforced in the districts of Patna, Gaya, Shahabad, Hazaribagh, Muzaffarpur, Darbhanga, Saran, Purnea, Champaran, Bhagalpur and Manbhum. Introduction of the Act in all the remaining districts of the province and definite arrangement for re-vaccination are necessary.

10. *Inspection of work.*—During the year under report the Assistant Directors of Public Health inspected 27,898 vaccinations (16,010 primary and 11,888 re-vaccinations), as against 36,878 in the previous year.

The Assistant Director of Public Health performed vaccination inspection tours of 14 districts as compared with 15 in the previous year. Valuable reports were submitted on the work done in each of these districts.

11. The Superintendents of Vaccination of the province inspected 42,245 primary and 4,323 re-vaccinations against 41,145 primary and 5,227 re-vaccinations last year. The Vaccine Depot, Namkum, continued to supply the province with vaccine lymph throughout the year. A large supply of vaccine lymph is held in reserve and ample stock of the necessary stores and supplies for the manufacture is maintained. 2,542,745 doses of vaccine lymph were manufactured during the year as compared with 2,933,190 doses last year. 3,070,958 doses were issued as against 3,048,908 in the previous year and 4,247,114 doses were left in stock at the end of the year. The number of calves used for the manufacture of lymph during the year was 997 as compared with 978 in the previous year. The average yield of crude pulp per calf was 31,207 grammes. The total expenditure of the Vaccine Depot amounted to Rs. 33,428 during the year as compared with the expenditure of Rs. 34,913 of the previous year. The average cost of the vaccine lymph per dose came to 2.52 pies when calculated on the gross expenditure. The sale proceeds of vaccine lymph was Rs. 27,265 as compared with Rs. 26,963 of the previous year.

12. *Vaccine Depot and Cold Storage.*—There was no serious outbreak of any epidemic disease among the calves. Only a few had a mild attack of foot and mouth disease but the outbreak was promptly checked. The death rate of calves after admission into the Vaccine Depot was 1.80 per cent during the year as compared with 1.44 per cent of the previous year. Besides vaccine lymph, cholera, plague and influenza vaccines were also as usual stocked at the depot.

13. *Experimental work.*—The following is a summary of the experiments carried out by the Superintendent during the year:—

- (1) It was observed that if lymph from the arms of children was introduced into the seed regeneration cycle, the resultant seed gave better visicles and results.
- (2) The dilution test for potency of lymph was introduced and all samples were being tested on calves at a dilution of 1 in 1,500 and the samples were then tested on children or rabbits. Each sample was also subjected to regular bacteriological tests during the year at the Bacteriophage Laboratory at Patna before issue.
- (3) Clove oil in a strength of 0.1 per cent with glycerine mixture helped to remove quicker the extraneous germs from vaccine lymph. Usually 1.0 per cent of clove oil mixture would be sufficient for 100 c. c. of 1 in 5 vaccine lymph. Carbolic acid solution was found unsuitable even at that strength.



- (4) Vaccine lymph which became slightly acid in re-action was neutralised with sodibicarb solution with better results.
- (5) Glycerine mixture was made slightly alkaline with five per cent sodibicarb solution and proved advantageous in keeping the lymph alkaline.
- (6) An application of glycerine mixture of pure glycerine on the calf abdomen helped in better development of vaccination vesicles.

14. *Cost of the Department.*—The total cost of the Vaccination Department excluding that of the Vaccine Depot during the year, as noted in statement I, was Rs. 55,420 as against Rs. 50,673 in the previous year.

The cost per each successful operation was nine pies as compared with nine pies of the last year.

15. *Personnel.*—In conclusion I desire to bring to the notice of Government good work done by the Assistant Directors of Public Health in their respective circles.

Dr. C. N. Banerji continued as the Superintendent of Vaccine Depot and his work has been very satisfactory.

S. L. MITRA, LT.-COL., I.M.S.,

*Director of Public Health, Bihar.*



1	2	3			4		
No.	Districts.	Population according to the Census of 1931.			Number of Births registered.		
		Male.	Female.	Total.	Male.	Female.	Total.
PATNA DIVISION.							
1	Patna ... ..	956,124	890,350	1,846,474	32,162	30,752	62,914
2	Gaya ... ..	1,193,643	1,194,819	2,388,462	56,623	55,293	111,916
3	Shahabad ... ..	999,099	994,390	1,993,489	42,748	39,684	82,432
	Total ...	3,148,866	3,079,559	6,228,425	131,533	125,729	257,262
TIRHUT DIVISION.							
4	Saran ... ..	1,220,049	1,266,419	2,486,468	47,348	45,778	93,126
5	Champaran ... ..	1,080,956	1,064,731	2,145,687	38,520	36,839	75,359
6	Muzaffarpur ... ..	1,443,847	1,497,178	2,941,025	50,862	47,871	98,733
7	Darbhangha ... ..	1,570,959	1,595,135	3,166,094	53,257	51,305	104,562
	Total ...	5,315,811	5,423,463	10,739,274	189,487	181,793	371,280
BHAGALPUR DIVISION.							
8	Monghyr ... ..	1,145,797	1,141,357	2,287,154	41,813	40,244	82,057
9	Bhagalpur ... ..	1,130,584	1,104,048	2,234,632	36,994	34,375	71,369
10	Purnea ... ..	1,129,681	1,056,862	2,186,543	33,072	30,005	63,077
11	Santal Parganas ... ..	1,025,921	1,025,551	2,051,472	27,160	26,791	53,951
	Total ...	4,431,983	4,327,818	8,759,801	139,039	131,415	270,454
CHOTA NAGPUR DIVISION.							
12	Hazaribagh ... ..	751,956	765,401	1,517,357	28,489	28,014	56,503
13	Ranchi ... ..	777,063	790,086	1,567,149	25,980	24,512	50,492
14	Palamau ... ..	409,778	408,958	818,736	18,476	17,833	36,309
15	Manbhum ... ..	940,009	870,881	1,810,890	26,093	24,293	50,386
16	Singbhum ... ..	469,421	460,381	929,802	11,994	11,498	23,492
	Total ...	3,348,227	3,295,707	6,643,934	111,032	106,150	217,182
	Total for the Province ...	16,244,887	16,126,547	32,371,434	571,091	545,087	1,116,178



DIX I.  
Districts of Bihar Province during the year 1938.

5			6	7	8	9			1
Ratio of births per 1,000 of population.			Number of males born to every 100 females born.	Excess of births over deaths per 1000 of population.	Excess of deaths over births per 1,000 of population.	Mean ratio of births per 1,000 during previous five years.			No.
Male.	Female.	Total.				Male.	Female.	Total.	
17.4	16.7	34.1	...	12.4	...	17.4	16.8	34.2	1
23.7	23.1	46.8	...	17.6	...	23.0	22.1	45.1	2
21.4	19.9	41.3	...	17.3	...	21.3	19.5	40.8	3
21.1	20.2	41.3	...	15.9	...	20.8	19.7	40.5	
19.0	18.4	37.4	...	14.7	...	19.0	17.9	36.9	4
17.9	17.2	35.1	...	11.0	...	17.6	16.7	34.3	5
17.1	16.3	33.4	...	17.8	...	18.8	17.3	35.6	6
16.8	16.2	33.2	...	8.3	...	16.5	15.6	32.1	7
17.6	16.9	34.5	..	10.0	...	17.8	16.8	34.6	
18.3	17.6	35.9	...	12.0	...	19.7	18.4	38.1	8
16.5	15.4	31.9	...	6.8	...	16.2	15.4	31.6	9
15.1	13.7	28.8	...	4.8	...	15.7	14.4	30.1	10
13.2	13.1	26.3	...	7.9	...	14.1	13.4	27.6	11
15.9	15.0	30.9	...	8.0	...	16.5	15.5	32.0	
18.7	18.5	37.2	...	14.7	...	17.7	17.1	34.9	12
16.6	15.6	32.2	...	8.2	...	15.9	15.5	31.5	13
22.5	21.8	44.3	...	16.0	...	21.1	20.6	41.8	14
14.4	13.4	27.8	...	10.2	...	14.6	13.7	28.3	15
12.9	12.3	25.3	...	9.2	...	13.0	12.4	25.4	16
16.7	16.0	32.7	...	11.3	...	16.2	15.6	31.8	
17.6	16.8	34.5	105	10.9	...	17.7	16.8	34.5	



Annual Form No. 1A.—Births registered according to class in each town and rural areas in

1				2			3		
Registering circle.				Christians.			Hindus.		
				Male.	Female.	Total.	Male.	Female.	Total.
PATNA.									
Patna town	...	...	...	...	...	...	906	797	1,703
Bihar town	...	...	...	...	...	...	212	223	435
Dinapur Nizamat town	...	...	...	...	...	...	79	61	140
Dinapur Cantonment	...	...	...	2	...	2	96	114	210
Barh town	...	...	...	...	...	...	114	70	184
Khagole town	...	...	...	...	...	...	66	64	130
Total of towns	...	...	...	2	...	2	1,473	1,329	2,802
Total of rural	...	...	...	...	...	...	28,147	27,167	55,314
Total of district	...	...	...	2	...	2	29,620	28,496	58,116
GAYA.									
Gaya town	...	...	...	...	1	1	1,043	996	2,039
Tikari town	...	...	...	...	...	...	77	88	165
Daudnagar town	...	...	...	...	...	...	177	144	321
Total of towns	...	...	...	...	1	1	1,297	1,228	2,525
Total of rural	...	...	...	...	...	...	50,352	49,395	99,747
Total of district	...	...	...	...	1	1	51,649	50,623	102,272
SHAHABAD.									
Arrah town	...	...	...	...	...	...	227	195	422
Buxar town	...	...	...	...	...	...	152	111	263
Dumraon town	...	...	...	...	...	...	99	99	198
Jagadispur town	...	...	...	...	...	...	34	57	91
Sasaram town	...	...	...	...	...	...	222	203	425
Bhabua town	...	...	...	...	...	...	56	54	110
Total of towns	...	...	...	...	...	...	790	719	1,509
Total of rural	...	...	...	...	2	2	39,490	36,823	76,313
Total of district	...	...	...	...	2	2	40,280	37,542	77,822



## DIX I—contd.

the districts of Bihar province during the year 1938—contd.

4			5			6			7		
Muhammadans.			Buddhists.			Other Classes.			Total.		
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
242	181	423	...	...	...	...	...	...	1,148	978	2,126
65	59	124	...	...	...	...	...	...	277	282	559
12	15	27	...	...	...	...	...	...	91	76	167
30	36	66	...	...	...	...	...	...	128	150	278
17	26	43	...	...	...	...	...	...	131	96	227
19	7	26	...	...	...	...	...	...	85	71	156
385	324	709	...	...	...	...	...	...	1,860	1,653	3,513
2,155	1,932	4,087	...	...	...	...	...	...	30,302	29,099	59,401
2,540	2,256	4,796	...	...	...	...	...	...	32,162	30,752	62,914
294	293	587	...	...	...	...	...	...	1,337	1,290	2,627
32	34	66	...	...	...	...	...	...	109	122	231
36	24	60	...	...	...	...	...	...	213	168	381
362	351	713	...	...	...	...	...	...	1,659	1,580	3,239
4,612	4,318	8,930	...	...	...	...	...	...	54,964	53,713	108,677
4,974	4,669	9,643	...	...	...	...	...	...	56,623	55,293	111,916
77	51	128	...	...	...	...	...	...	304	246	550
34	36	70	...	...	...	...	...	...	186	147	333
25	22	47	...	...	...	...	...	...	124	121	245
13	22	35	...	...	...	...	...	...	47	79	126
85	69	154	...	...	...	...	...	...	307	272	579
25	18	43	...	...	...	...	...	...	81	72	153
259	218	477	...	...	...	...	...	...	1,040	937	1,986
2,209	1,922	4,131	...	...	...	...	...	...	41,699	38,747	80,446
2,468	2,140	4,608	...	...	...	...	...	...	42,748	39,684	82,432



## Annual Form No. 1A.—Births registered according to class in each town and rural areas

1				2			3		
Registering circle.				Christians.			Hindus.		
				Male.	Female.	Total.	Male.	Female.	Total.
SARAN.									
Chapra town	...	...	...	...	...	...	498	448	946
Revelganj town	...	...	...	...	...	...	126	121	247
Siwan town	...	...	...	...	...	...	146	132	278
Total of towns	...	...	...	...	...	...	770	701	1,471
Total of rural	...	...	...	...	...	...	37,403	36,457	73,860
Total of district	...	...	...	...	...	...	38,173	37,158	75,331
CHAMPARAN.									
Bettiah town	...	...	...	42	61	103	279	293	572
Motihari town	...	...	...	...	...	...	120	90	210
Total of towns	...	...	...	42	61	103	399	383	782
Total of rural	...	...	...	10	18	28	32,414	30,879	63,293
Total of district	...	...	...	52	79	131	32,813	31,262	64,075
MUZAFFARPUR.									
Muzaffarpur town	...	...	...	...	...	...	352	234	586
Sitamarhi town	...	...	...	...	...	...	123	104	232
Hajipur town	...	...	...	...	...	...	251	208	459
Lalganj town	...	...	...	...	...	...	136	114	250
Total of towns	...	...	...	...	...	...	867	660	1,527
Total of rural	...	...	...	5	7	12	43,384	41,264	84,648
Total of district	...	...	...	5	7	12	44,251	41,924	86,175
DARBHANGA.									
Darbhanga town	...	...	...	...	...	...	672	590	1,262
Roserah town	...	...	...	...	...	...	116	109	225
Samastipur town	...	...	...	...	...	...	124	95	219
Madhubani town	...	...	...	...	...	...	151	125	276
Total of towns	...	...	...	...	...	...	1,063	919	1,982
Total of rural	...	...	...	...	...	...	45,396	43,782	89,178
Total of district	...	...	...	...	...	...	46,459	44,701	91,160



## DIX I—contd.

in the districts of Bihar province during the year 1938—contd.

4			5			6			7		
Mahammadans.			Buddhists.			Other Classes.			Total.		
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
191	156	347	...	...	...	...	...	...	689	604	1,293
51	51	102	...	...	...	...	...	...	177	172	349
63	59	122	...	...	...	...	...	...	209	191	400
305	266	571	...	...	...	...	...	...	1,075	967	2,042
8,870	8,354	17,224	...	...	...	...	...	...	46,273	44,811	91,084
9,175	8,620	17,795	...	...	...	...	...	...	47,348	45,778	93,126
189	172	361	...	...	...	...	...	...	510	526	1,036
32	44	76	...	...	...	...	...	...	152	134	286
221	216	437	...	...	...	...	...	...	662	660	1,322
5,434	5,282	10,716	...	...	...	...	...	...	37,858	36,179	74,037
5,655	5,498	11,153	...	...	...	...	...	...	38,520	36,839	75,359
130	105	235	...	...	...	...	...	...	482	339	821
37	24	61	...	...	...	...	...	...	165	128	293
55	42	97	...	...	...	...	...	...	306	250	556
27	26	53	...	...	...	...	...	...	163	140	303
249	197	446	...	...	...	...	...	...	1,116	857	1,973
58,57	5,743	11,600	...	...	...	...	...	...	49,246	47,014	96,260
6,106	5,940	12,046	...	...	...	...	...	...	50,362	47,871	98,233
235	231	466	...	...	...	...	...	...	907	821	1,728
...	3	3	...	...	...	...	...	...	116	112	228
9	4	13	...	...	...	...	...	...	133	99	232
86	70	156	...	...	...	...	...	...	237	195	432
330	308	638	...	...	...	...	...	...	1,393	1,227	2,620
6,468	6,296	12,764	...	...	...	...	...	...	51,864	50,078	101,942
6,798	6,604	13,402	...	...	...	...	...	...	53,257	51,305	104,562



## Annual Form No. IA.—Births registered according to class in each town and rural areas

1			2			3		
Registering circle.			Christians.			Hindus.		
—			Male.	Female.	Total.	Male.	Female.	Total.
<b>MONGHYR.</b>								
Monghyr town	...	...	...	...	...	528	487	1,015
Jamalpur town	...	...	3	2	5	446	402	848
Total of towns	...	...	3	2	5	974	889	1,863
Total of rural	...	...	6	4	10	36,776	35,135	71,911
Total of district	...	...	9	6	15	37,750	36,024	73,774
<b>BHAGALPUR.</b>								
Bhagalpur town	...	...	...	...	...	453	331	784
Colgong town	...	...	...	...	...	51	45	99
Total of towns	...	...	...	...	...	507	376	883
Total of rural	...	...	...	...	...	33,310	31,453	64,763
Total of district	...	...	...	...	...	33,817	31,829	65,646
<b>PURNEA.</b>								
Purnea town	...	...	...	...	...	99	84	183
Kishenganj town	...	...	...	...	...	32	31	63
Katihar town	...	...	...	...	...	72	51	123
Forbesganj town	...	...	...	...	...	40	28	68
Total of towns	...	...	...	...	...	243	194	437
Total of rural	...	...	...	...	...	18,905	17,448	36,353
Total of district	...	...	...	...	...	19,148	17,642	36,790
<b>SANTAL PARGANAS.</b>								
Sahibganj town	...	...	...	...	...	49	36	85
Deoghar town	...	...	...	...	...	19	14	33
Dumka town	...	...	...	...	...	23	23	46
Madhupur town	...	...	...	...	...	24	26	50
Total of towns	...	...	...	...	...	115	99	214
Total of rural	...	...	95	62	157	12,391	11,770	24,161
Total of district	...	...	95	62	157	12,506	11,869	24,375



DIX 1—contd.

in the districts of Bihar province during the year 1938—contd.

4			5			6			7		
Muhammadans.			Buddhists.			Other Classes.			Total.		
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
137	121	258	...	...	...	...	...	...	665	608	1,273
92	69	161	...	...	...	...	...	...	541	473	1,014
229	190	419	...	...	...	...	...	...	1,206	1,081	2,287
3,825	4,024	7,849	...	...	...	...	...	...	40,607	39,163	79,770
4,054	4,214	8,268	...	...	...	...	...	...	41,813	40,244	82,057
132	100	232	...	...	...	...	...	...	585	431	1,016
10	9	19	...	...	...	...	...	...	64	54	118
142	109	251	...	...	...	...	...	...	649	485	1,134
3,035	2,437	5,472	...	...	...	...	...	...	36,345	33,890	70,235
3,177	2,546	5,723	...	...	...	...	...	...	36,994	34,375	71,369
76	57	133	...	...	...	...	...	...	175	141	316
35	25	60	...	...	...	...	...	...	67	56	123
21	12	33	...	...	...	...	...	...	93	63	156
24	25	49	...	...	...	...	...	...	64	53	117
156	119	275	...	...	...	...	...	...	399	313	712
13,768	12,243	26,011	...	1	1	...	...	...	32,673	29,692	62,365
13,924	12,362	26,286	...	1	1	...	...	...	33,072	30,005	63,077
17	16	33	...	...	...	...	...	...	66	52	118
...	2	2	...	...	...	...	...	...	19	16	35
4	7	11	...	...	...	5	1	6	32	31	63
11	5	16	...	...	...	1	1	2	36	32	68
32	30	62	...	...	...	6	2	8	153	131	284
3,223	2,934	6,157	...	...	...	11,298	11,894	23,192	27,007	26,660	53,667
3,255	2,964	6,219	...	...	...	11,304	11,896	23,200	27,160	26,791	53,951



## Annual Form No. IA.—Births registered according to class in each town and rural areas

1			2			3		
Registering circle.			Christians.			Hindus.		
			Male.	Female.	Total.	Male.	Female.	Total.
HAZARIBAGH.								
Hazaribagh town	...	...	...	...	...	176	174	350
Chatra town	...	...	...	...	...	118	92	210
Giridih town	...	...	...	...	...	65	43	108
Total of towns	...	...	...	...	...	359	309	668
Total of rural	...	...	3	4	7	25,010	24,754	49,764
Total of district	...	...	3	4	7	25,369	25,063	50,432
RANCHI.								
Ranchi town	...	...	66	39	105	312	271	583
Lohardaga town	...	...	3	6	9	46	42	88
Total of towns	...	...	69	45	114	358	313	671
Total of rural	...	...	4,158	3,888	8,046	7,890	7,307	15,197
Total of district	...	...	4,227	3,933	8,160	8,248	7,620	15,868
PALAMAU.								
Daltonganj town	...	...	...	...	...	82	59	141
Total of rural	...	...	155	174	329	16,716	16,087	32,803
Total of district	...	...	155	174	329	16,798	16,146	32,944
MANBHUM.								
Purulia town	...	...	15	6	21	241	179	420
Raghunathpur town	...	...	...	...	...	117	100	217
Jhalda town	...	...	...	...	...	90	79	169
Dhanbad town	...	...	...	1	1	194	188	382
Total of towns	...	...	15	7	22	642	546	1,188
Total of rural	...	...	31	23	54	22,861	21,363	44,224
Total of district	...	...	46	30	76	23,503	21,909	45,412
SINGHBHUM.								
Chaibassa town	...	...	4	5	9	119	87	206
Chakradharpur town	...	...	1	4	5	59	65	124
Jugsalai town	...	...	2	...	2	116	92	208
Jamshedpur town	...	...	17	13	30	251	235	486
Total of towns	...	...	24	22	46	545	479	1,024
Total of rural	...	...	105	99	204	5,593	5,599	11,192
Total of districts Province.	...	...	129	121	250	6,138	6,078	12,216
Total of towns	...	...	155	138	293	10,484	9,203	19,687
Total of rural	...	...	4,568	4,281	8,849	456,038	436,683	892,721
Total of districts	...	...	4,723	4,419	9,142	466,522	445,886	912,408



## DIX I—contd.

in the districts of Bihar province during the year 1938—concl'd.

4			5			6			7		
Muhammadans.			Buddhists.			Other classes.			Total.		
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
51	52	103	...	...	...	...	...	...	227	226	453
50	45	95	...	...	...	...	...	...	168	137	305
22	21	43	...	...	...	...	...	...	87	64	151
123	118	241	...	...	...	...	...	...	482	427	909
2,802	2,665	5,467	...	...	...	192	164	356	28,007	27,587	55,594
2,925	2,783	5,708	...	...	...	192	164	356	28,489	28,014	56,503
85	110	195	...	...	...	7	6	13	470	426	896
40	31	71	...	...	...	8	9	17	97	88	185
125	141	266	...	...	...	15	15	30	567	514	1,081
947	970	1,917	...	...	...	12,418	11,833	24,251	25,413	23,998	49,411
1,072	1,111	2,183	...	...	...	12,433	11,848	24,281	25,980	24,512	50,492
19	13	32	...	...	...	...	...	...	101	72	173
1,504	1,500	3,004	...	...	...	...	...	...	18,375	17,761	36,136
1,523	1,518	3,036	...	...	...	...	...	...	18,476	17,833	36,309
17	16	33	...	...	...	4	2	6	277	203	480
4	3	7	...	...	...	...	2	2	121	105	226
3	...	3	...	...	...	...	...	...	93	79	172
49	51	100	...	...	...	...	...	...	243	240	483
73	70	143	...	...	...	4	4	8	734	627	1,361
1,283	1,175	2,458	...	...	...	1,184	1,105	2,289	25,359	23,666	49,025
1,356	1,245	2,601	...	...	...	1,188	1,109	2,297	26,093	24,293	50,386
11	12	23	...	...	...	...	...	...	134	104	238
9	18	27	...	...	...	6	12	18	75	99	174
16	12	28	...	...	...	...	...	...	134	104	238
31	21	52	...	...	...	11	8	19	310	277	587
67	63	130	...	...	...	17	20	37	653	584	1,237
77	78	155	...	...	...	5,566	5,138	10,704	11,341	10,914	22,255
144	141	285	...	...	...	5,583	5,158	10,741	11,994	11,498	23,492
3,077	2,733	5,810	...	...	...	42	41	83	13,758	12,115	25,873
66,069	61,873	127,942	...	1	1	30,658	30,134	60,792	657,333	632,972	1,090,305
62,146	64,606	133,752	...	1	1	30,700	30,175	60,875	671,091	645,087	1,116,178



Annual Form no. IB.—Still births registered according to class in each town and rural

1	2			3		
Registering circle.	Christians.			Hindus.		
	Male.	Female.	Total.	Male.	Female.	Total.
<b>PATNA.</b>						
Patna town .. ..	..	..	..	5	4	9
Bihar town .	..	..	..	..	2	2
Dinapur Nizamat town ..	..	..	..	1	1	2
Dinapur Cantonment ..	..	..	..	4	2	6
Barh town .. ..	..	..	..	2	1	3
Khagole town ..	..	..	..	2	1	3
Total of towns ..	..	..	..	14	11	25
Total of rural ..	..	..	..	1,541	1,162	2,703
Total of district ..	..	..	..	1,555	1,173	2,728
<b>GAYA.</b>						
Gaya town .. ..	..	..	..	102	47	149
Tikari town .. ..	..	..	..	5	8	13
Daudnagar town ..	..	..	..	8	5	13
Total of towns ..	..	..	..	115	60	175
Total of rural ..	..	..	..	1,533	1,342	2,875
Total of district ..	..	..	..	1,648	1,402	3,050
<b>SHAHABAD.</b>						
Arrah town .. ..	..	..	..	3	1	4
Buxar town .. ..	..	..	..	1	..	1
Dumraon town ..	..	..	..	..	..	..
Jagadispur town ..	..	..	..	..	..	..
Sasaram town ..	..	..	..	..	..	..
Bhabua town .. ..	..	..	..	..	..	..
Total of towns ..	..	..	..	4	1	5
Total of rural ..	..	..	..	23	20	43
Total of district ..	..	..	..	27	21	48







*Annual Form no. IB.—Still births registered according to class in each town and rural*

1	2			3		
Registering circle.	Christians.			Hindus.		
	Male.	Female.	Total.	Male.	Female.	Total.
<b>SARAN.</b>						
Chapra town .. ..	..	..	..	39	30	69
Revelganj town ..	..	..	..	..	..	..
Siwan town .. ..	..	..	..	7	7	14
Total of towns ..	..	..	..	46	37	83
Total of rural ..	..	..	..	1,161	982	2,143
Total of district ..	..	..	..	1,207	1,019	2,226
<b>CHAMPARAN.</b>						
Bettiah town .. ..	..	..	..	3	5	8
Motihari town ..	..	..	..	2	..	2
Total of towns ..	..	..	..	5	5	10
Total of rural ..	..	..	..	1,452	1,217	2,669
Total of district ..	..	..	..	1,457	1,222	2,679
<b>MUZAFFARPUR.</b>						
Muzaffarpur town ..	..	..	..	12	2	14
Sitamarhi town ..	..	..	..	4	5	9
Hajipur town .. ..	..	..	..	2	4	6
Lalganj town .. ..	..	..	..	1	2	3
Total of towns ..	..	..	..	19	13	32
Total of rural ..	..	..	..	2,470	1,822	4,292
Total of district ..	..	..	..	2,489	1,835	4,324
<b>DARBHANGA.</b>						
Darbhanga town ..	..	..	..	23	4	27
Roserah town .. ..	..	..	..	2	..	2
Samastipur town ..	..	..	..	1	1	2
Madhubani town ..	..	..	..	12	7	19
Total of towns ..	..	..	..	38	12	50
Total of rural ..	..	..	..	704	532	1,236
Total of district ..	..	..	..	742	544	1,286



## DIX I—contd.

areas in the districts of Bihar province during the year 1938—contd.

4			5			6			7		
Muhammadans.			Buddhists.			Other Classes.			Total.		
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
5	8	13	..	..	..	..	..	..	44	38	82
..	..	..	..	..	..	..	..	..	..	..	..
1	1	2	..	..	..	..	..	..	8	8	16
6	9	15	..	..	..	..	..	..	52	46	98
240	211	451	..	..	..	..	..	..	1,401	1,193	2,594
246	220	466	..	..	..	..	..	..	1,453	1,239	2,692
..	1	1	..	..	..	..	..	..	3	6	9
..	..	..	..	..	..	..	..	..	2	..	2
..	1	1	..	..	..	..	..	..	5	6	11
260	213	473	..	..	..	..	..	..	1,712	1,430	3,142
260	214	474	..	..	..	..	..	..	1,717	1,436	3,153
1	1	2	..	..	..	..	..	..	13	3	16
..	..	..	..	..	..	..	..	..	4	5	9
1	..	1	..	..	..	..	..	..	3	4	7
..	..	..	..	..	..	..	..	..	1	2	3
2	1	3	..	..	..	..	..	..	21	14	35
416	365	781	..	..	..	..	..	..	2,886	2,187	5,073
418	366	784	..	..	..	..	..	..	2,907	2,201	5,108
1	2	3	..	..	..	..	..	..	24	6	30
..	..	..	..	..	..	..	..	..	2	..	2
..	..	..	..	..	..	..	..	..	1	1	2
9	2	11	..	..	..	..	..	..	21	9	30
10	4	14	..	..	..	..	..	..	48	16	64
141	87	228	..	..	..	..	..	..	845	619	1,464
151	91	242	..	..	..	..	..	..	893	635	1,528



Annual Form no. IB.—Still births registered according to class in each town and rural

1	2			3		
Registering circle.	Christians.			Hindus.		
	Male.	Female.	Total.	Male.	Female.	Total.
<b>MONGHYR.</b>						
Monghyr town ..	..	..	..	13	8	21
Jamalpur town ..	..	..	..	9	2	11
Total of towns ..	..	..	..	22	10	32
Total of rural ..	..	..	..	1,456	1,059	2,515
Total of district ..	..	..	..	1,478	1,069	2,547
<b>BHAGALPUR.</b>						
Bhagalpur town ..	..	..	..	14	11	25
Colgong town ..	..	..	..	..	..	..
Total of towns ..	..	..	..	14	11	25
Total of rural ..	..	..	..	426	402	828
Total of district ..	..	..	..	440	413	853
<b>PURNEA.</b>						
Purnea town ..	..	..	..	2	2	4
Kishenganj town ..	..	..	..	2	..	2
Katihar town ..	..	..	..	..	..	..
Forbesganj town ..	..	..	..	..	..	..
Total of towns ..	..	..	..	4	2	6
Total of rural ..	..	..	..	653	507	1,160
Total of district ..	..	..	..	657	509	1,166
<b>SANTAL PARGANAS.</b>						
Sahibganj town ..	..	..	..	..	..	..
Deoghar town ..	..	..	..	..	..	..
Dumka town ..	..	..	..	..	..	..
Madhupur town ..	..	..	..	..	..	..
Total of towns ..	..	..	..	..	..	..
Total of rural ..	..	..	..	36	39	75
Total of district ..	..	..	..	36	39	75
<b>HAZARIBAGH.</b>						
Hazaribagh town ..	..	..	..	2	1	3
Chatra town ..	..	..	..	..	..	..
Giridih town ..	..	..	..	..	..	..
Total of towns ..	..	..	..	2	1	3
Total of rural ..	..	1	1	468	286	754
Total of district ..	..	..	..	470	287	757



## DIX I—contd.

areas in the districts of Bihar province during the year 1938—contd.

4			5			6			7		
Muhammadans.			Buddhists.			Other Classes.			Total.		
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
8	4	12	..	..	..	..	..	..	21	12	33
2	1	3	..	..	..	..	..	..	11	3	14
10	5	15	..	..	..	..	..	..	32	15	47
623	642	1,265	..	..	..	..	..	..	2,079	1,701	3,780
633	647	1,280	..	..	..	..	..	..	2,111	1,716	3,827
..	..	..	..	..	..	..	..	..	14	11	25
..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	14	11	25
73	77	150	..	..	..	..	..	..	499	479	978
73	77	150	..	..	..	..	..	..	513	490	1,003
1	..	1	..	..	..	..	..	..	3	2	5
..	..	..	..	..	..	..	..	..	2	..	2
..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..
1	..	1	..	..	..	..	..	..	5	2	7
517	413	930	..	..	..	..	..	..	1,170	920	2,090
518	413	931	..	..	..	..	..	..	1,175	922	2,097
..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..
6	5	11	..	..	..	71	48	119	113	92	205
6	5	11	..	..	..	71	48	119	113	92	205
..	..	..	..	..	..	..	..	..	2	1	3
..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	2	1	3
51	22	73	..	..	..	..	..	..	519	309	828
51	22	73	..	..	..	..	..	..	521	310	831



Annual Form no. IB.—Still births registered according to class in each town and rural

1	2			3		
Registering circle.	Christians.			Hindus.		
	Male.	Female.	Total.	Male.	Female.	Total.
<b>RANCHI.</b>						
Ranchi town ..	..	2	2	..	..	..
Lohardaga town ..	1	..	1	..	..	..
Total of towns ..	1	2	3	..	..	..
Total of rural ..	197	172	369	333	240	573
Total of district ..	198	174	372	333	240	573
<b>PALAMAU.</b>						
Daltonganj town ..	..	..	..	3	..	3
Total of rural ..	..	3	3	384	289	673
Total of district ..	..	3	3	387	289	676
<b>MANBHUM.</b>						
Purulia town ..	..	..	..	..	..	..
Raghunathpur town ..	..	..	..	..	..	..
Jhalda town ..	..	..	..	6	4	10
Dhanbad town ..	..	..	..	4	2	6
Total of towns ..	..	..	..	10	6	16
Total of rural ..	..	1	1	188	123	311
Total of district ..	..	1	1	198	129	327
<b>SINGHBHUM.</b>						
Chaibassa town ..	..	..	..	..	..	..
Chakradharpur town ..	..	..	..	4	2	6
Jugsalai town ..	..	..	..	..	..	..
Jamshedpur town ..	..	..	..	8	5	13
Total of towns ..	..	..	..	12	7	19
Total of rural ..	10	5	15	90	68	158
Total of districts ..	10	5	15	102	75	177
<b>Province.</b>						
Total of towns ..	1	2	3	308	176	484
Total of rural ..	207	182	389	12,918	10,090	23,008
Total of districts ..	208	184	392	13,226	10,266	23,492



## DIX I—contd.

areas in the districts of Bihar province during the year 1938—concl'd.

4			5			6			7		
Muhammadans.			Buddhists.			Other Classes.			Total.		
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
..	..	..	..	..	..	..	..	..	..	2	2
..	..	..	..	..	..	..	..	..	1	..	1
..	..	..	..	..	..	..	..	..	1	2	3
30	24	54	..	..	..	467	385	852	1,027	821	1,848
30	24	54	..	..	..	467	385	852	1,028	823	1,851
..	..	..	..	..	..	..	..	..	3	..	3
20	18	38	..	..	..	..	..	..	404	310	714
20	18	38	..	..	..	..	..	..	407	310	717
..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..
..	..	..	..	..	..	..	..	..	6	4	10
2	..	2	..	..	..	..	..	..	6	2	8
2	..	2	..	..	..	..	..	..	12	6	18
3	1	4	..	..	..	3	1	4	194	126	320
5	1	6	..	..	..	3	1	4	206	132	338
1	1	2	..	..	..	..	1	1	1	2	3
..	..	..	..	..	..	..	..	..	4	2	6
..	..	..	..	..	..	..	..	..	..	..	..
1	..	1	..	..	..	..	..	..	9	5	14
2	1	3	..	..	..	..	1	1	14	9	23
1	2	3	..	..	..	76	90	166	177	165	342
3	3	6	..	..	..	76	91	167	191	174	365
53	33	86	..	..	..	..	1	1	362	212	574
2,478	2,175	4,653	..	..	..	617	524	1,141	16,220	12,971	29,191
31	2,208	4,739	..	..	..	617	525	1,142	16,582	13,183	29,765



## Annual Form No. II.—Statement of Deaths registered

1	2							3	4	5			6		
No.	District.							Area in square miles.	Average population per square mile.	Number of deaths registered.			Number of deaths of males to every 100 deaths of females for the province.		
										Male.	Female.	Total.			
PATNA DIVISION.															
1	Patna	...	...	...	...	...	...	2,068	893	20,666	19,437	40,103	...		
2	Gaya	...	...	...	...	...	...	4,714	506	36,060	33,762	69,822	...		
3	Shahabad	...	...	...	...	...	...	4,372	456	24,497	23,452	47,949	...		
	Total							...	...	11,154	558	81,223	76,651	157,874	...
TIRHUT DIVISION.															
4	Saran	...	...	...	...	...	...	2,683	927	30,060	26,504	56,564	...		
5	Champaran	...	...	...	...	...	...	3,531	607	27,978	23,782	51,760	...		
6	Muzaffarpur	...	...	...	...	...	...	3,036	968	39,949	35,508	75,457	...		
7	Darbhanga	...	...	...	...	...	...	3,348	945	42,328	36,611	78,939	...		
	Total							...	...	12,598	852	140,315	122,405	262,720	...
BHAGALPUR DIVISION.															
8	Monghyr	...	...	...	...	...	...	3,927	582	28,800	25,812	54,612	...		
9	Bhagalpur	...	...	...	...	...	...	4,226	528	29,955	26,214	56,169	...		
10	Purnea	...	...	...	...	...	...	4,972	439	28,550	23,881	52,431	...		
11	Santal Parganas	...	...	...	...	...	...	5,458	375	20,323	17,549	37,872	...		
	Total							...	...	18,583	471	107,628	93,456	201,084	...
CHOTA NAGPUR DIVISION.															
12	Hazaribagh	...	...	...	...	...	...	7,021	216	18,052	16,166	34,218	...		
13	Ranchi	...	...	...	...	...	...	7,102	220	20,227	17,487	37,714	...		
14	Palamau	...	...	...	...	...	...	4,916	166	12,312	10,900	23,212	...		
15	Manbhum	...	...	...	...	...	...	4,095	442	17,933	13,957	31,890	...		
16	Singhbhum	...	...	...	...	...	...	3,879	239	8,306	6,715	15,021	...		
	Total							...	...	27,013	235	76,830	65,225	142,055	...
Total for the Province								...	...	69,348	465	405,996	357,737	763,733	113



DIX 1—contd.  
in the districts of Bihar Province, during the year 1938.

7											8			9
Death-rate per 1,000 of population from—											Mean ratio of deaths per 1,000 during previous five years.			No.
Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	All causes.			Male.	Female.	Total.	
								Male.	Female.	Total.				
0·3	0·2	...	14·1	0·4	0·5	0·3	5·8	21·7	21·8	21·7	20·8	21·3	21·0	1
0·6	0·4	...	22·0	0·1	0·05	0·2	5·7	30·2	28·2	29·2	28·9	27·0	27·9	2
0·5	0·2	...	18·4	0·02	0·01	0·2	4·7	24·5	23·6	24·0	23·3	22·7	23·0	3
0·5	0·3	...	18·5	0·2	0·2	0·3	5·4	25·8	24·9	25·4	24·6	24·0	24·3	
0·2	0·4	0·4	13·4	0·1	0·3	0·4	7·2	24·6	20·9	22·7	21·8	18·9	20·4	4
1·3	0·3	0·08	19·0	0·08	0·2	0·2	3·2	25·9	22·3	24·1	22·6	19·8	21·2	5
0·4	0·08	0·1	22·3	0·04	0·03	0·4	2·1	27·6	23·7	25·6	25·1	22·6	23·8	6
0·8	0·1	0·001	21·4	0·04	0·02	0·4	2·0	26·9	22·9	24·9	23·2	20·6	21·9	7
0·7	0·2	0·2	19·4	0·05	0·1	0·4	3·5	26·4	22·6	24·5	23·3	20·6	21·9	
0·3	0·1	...	18·6	0·1	0·03	0·3	4·3	25·1	22·6	23·9	25·0	23·3	24·1	8
0·6	0·1	...	21·5	0·07	0·02	0·2	2·4	26·4	23·7	25·1	2·60	23·7	24·9	9
0·3	0·06	...	21·9	0·02	0·02	0·3	1·4	25·3	22·6	24·0	26·8	25·2	26·0	10
0·1	0·06	...	16·6	0·05	0·1	0·1	1·2	19·8	17·1	18·4	20·6	17·6	19·1	11
0·3	0·1	...	19·7	0·08	0·05	0·2	2·4	24·3	21·6	22·9	24·7	22·5	23·6	
0·3	0·02	...	19·1	0·07	0·03	0·2	2·7	24·0	21·1	22·5	23·3	20·7	22·0	12
0·1	0·05	...	19·6	0·6	0·04	0·2	3·2	26·0	22·1	24·0	23·9	20·7	22·3	13
0·6	0·5	...	22·6	0·01	0·005	0·3	4·2	30·0	26·6	28·3	28·7	26·0	27·4	14
0·08	0·2	...	15·4	0·06	0·08	0·2	1·5	19·0	16·0	17·6	19·9	17·7	18·9	15
0·03	0·04	...	14·3	0·1	0·006	0·1	1·4	17·7	14·5	16·1	17·6	15·1	16·4	16
0·2	0·1	...	18·0	0·2	0·04	0·2	2·5	22·9	19·8	21·4	22·3	19·8	21·1	
0·4	0·2	0·06	19·0	0·1	0·09	0·3	3·4	25·0	22·2	23·6	23·8	21·6	22·0	



## Annual Form No. III.--Deaths registered in the districts of Bihar

1	2		3					
No.	District.		Population according to census, 1931.	January.	February.	March.	April.	May.
PATNA DIVISION.								
1	Patna District	Urban ...	258,284	267	156	131	236	212
		Rural ...	1,588,190	2,626	1,878	1,622	3,444	3,064
		Total ...	1,846,474	2,893	2,034	1,753	3,680	3,276
2	Gaya District ...	Urban ...	105,185	262	268	225	338	357
		Rural ...	2,283,277	4,793	3,601	4,310	4,576	5,639
		Total ...	2,388,462	5,055	3,869	4,535	4,914	5,996
3	Shahabad District	Urban ...	117,630	45	37	52	51	64
		Rural ...	1,875,859	3,445	2,744	2,822	3,025	3,342
		Total ...	1,993,489	3,490	2,781	2,874	3,076	3,406
TIRHUT DIVISION.								
4	Saran District...	Urban ...	70,475	74	57	126	98	103
		Rural ...	2,415,993	4,693	3,369	4,477	5,080	5,333
		Total ...	2,486,468	4,767	3,426	4,603	5,178	5,436
5	Champaran District	Urban ...	45,486	67	79	69	72	98
		Rural ...	2,100,201	3,953	2,443	3,247	3,886	4,878
		Total ...	2,145,687	4,020	2,522	3,316	3,958	4,976
6	Muzaffarpur District	Urban ...	82,241	104	85	138	154	143
		Rural ...	2,858,784	6,037	4,640	4,960	6,828	5,624
		Total ...	2,941,025	6,141	4,725	5,098	6,982	5,767
7	Darbhanga District	Urban ...	98,225	180	160	157	182	138
		Rural ...	3,067,869	6,732	5,137	5,972	7,483	7,418
		Total ...	3,166,094	6,912	5,297	6,129	7,665	7,556
BHAGALPUR DIVISION.								
8	Monghyr District	Urban ...	83,209	91	89	72	81	84
		Rural ...	2,203,945	3,969	2,983	3,376	5,013	4,159
		Total ...	2,287,154	4,080	3,072	3,448	5,094	4,243
9	Bhagalpur District	Urban ...	89,080	98	70	94	93	97
		Rural ...	2,145,552	4,640	3,981	4,147	4,434	4,059
		Total ...	2,234,632	4,738	4,051	4,241	4,527	4,156
10	Purnea District	Urban ...	46,223	48	25	40	62	49
		Rural ...	2,140,320	4,264	3,692	4,281	4,920	4,672
		Total ...	2,186,543	4,312	3,718	4,321	4,982	4,721
11	Santal Parganas District...	Urban ...	48,536	9	6	12	15	14
		Rural ...	2,002,936	2,188	2,182	2,389	3,072	3,215
		Total ...	2,051,472	2,197	2,188	2,401	3,087	3,229



DIX I—contd.

Province, during each month of the year 1938—contd.

4							5	6
June.	July.	August.	September.	October.	November.	December.	Total deaths registered during the year.	No.
185	207	278	247	181	227	200	2,527	1
3,884	3,469	3,811	3,544	2,993	4,230	3,011	37,576	
4,069	3,676	4,089	3,791	2,174	4,457	3,311	40,103	
372	400	370	362	344	286	257	3,841	2
5,983	7,820	7,507	6,627	5,272	5,343	4,509	65,981	
6,355	8,220	7,877	6,989	5,617	5,629	4,766	69,823	
51	52	102	80	77	41	55	707	3
3,833	4,544	5,684	5,362	4,624	3,918	3,839	47,242	
3,884	4,596	5,786	5,442	4,711	3,959	3,944	47,949	
102	118	125	132	107	112	92	1,236	4
4,220	4,887	4,368	5,549	4,369	4,526	4,457	55,328	
4,322	5,005	4,493	5,671	4,476	4,638	4,549	56,564	
78	85	89	50	48	56	61	852	5
4,663	4,860	4,651	4,879	4,938	4,692	3,818	50,908	
4,741	4,945	4,740	4,929	4,986	4,748	3,879	51,780	
146	115	124	159	131	149	143	1,591	6
5,799	5,827	6,109	5,969	6,815	7,618	7,640	73,866	
5,945	5,942	6,233	6,128	6,946	7,767	7,783	75,457	
128	133	161	136	113	156	139	1,783	7
6,375	6,127	6,314	6,256	5,297	7,590	6,455	77,156	
6,503	6,260	6,475	6,392	5,410	7,746	6,594	78,939	
77	127	130	120	102	99	93	1,165	8
4,042	4,562	4,509	5,734	5,051	5,416	4,613	53,447	
4,119	4,689	4,639	5,854	5,153	5,515	4,706	54,612	
74	96	105	81	127	79	92	1,106	9
3,952	3,745	4,694	4,467	5,073	6,310	5,561	55,063	
4,026	3,841	4,799	4,548	5,200	6,389	5,653	56,169	
38	42	52	28	51	50	50	536	10
3,406	3,231	3,893	4,361	4,014	5,496	5,665	51,895	
3,444	3,273	3,945	4,389	4,065	5,546	5,715	52,431	
29	23	8	8	7	11	13	155	11
3,659	3,872	4,052	3,737	3,090	2,990	3,271	37,717	
3,688	3,295	4,060	3,745	3,097	3,001	3,284	37,872	



## Annual Form No. III.—Deaths registered in the districts of Bihar

1		2		3				
No.	District.		Population according to census, 1931.	January.	February.	March.	April.	May.
CHOTA NAGPUR DIVISION.								
12	Hazaribagh District	{ Urban ...	50,857	28	20	27	38	40
		{ Rural ...	1,466,500	2,734	2,000	2,199	2,846	3,044
		{ Total ...	1,517,357	2,762	2,020	2,226	2,884	3,084
13	Ranchi District	{ Urban ...	58,094	85	43	42	43	86
		{ Rural ...	1,509,055	2,343	2,404	2,437	2,801	3,581
		{ Total ...	1,567,149	2,428	2,447	2,479	2,844	3,667
14	Palamau District	{ Urban ...	12,040	...	6	3	6	3
		{ Rural ...	806,696	1,961	1,544	1,798	1,439	2,128
		{ Total ...	818,736	1,961	1,550	1,801	1,945	2,131
15	Manbhum District	{ Urban ...	56,393	68	53	71	75	67
		{ Rural ...	1,754,497	2,194	2,058	2,418	2,926	3,014
		{ Total ...	1,810,890	2,257	2,106	2,489	3,001	3,081
16	Singhbhum District	{ Urban ...	30,697	55	53	51	92	74
		{ Rural ...	899,105	1,219	1,148	1,156	1,316	1,514
		{ Total ...	929,802	1,274	1,201	1,207	1,408	1,588
	Total for the province	{ Urban ...	(a)1,336,393	1,476	1,268	1,310	1,636	1,629
		{ Rural ...	31,035,941	57,811	45,799	51,611	63,589	64,684
		{ Total ...	32,371,434	59,287	47,007	52,921	65,225	66,313
	Ratio per 1,000 of population.	{ Urban ...	...	1.1	0.9	1.0	1.2	1.2
		{ Rural ...	...	1.8	1.5	1.6	2.0	2.1
		{ Total ...	...	1.8	1.4	1.6	2.0	2.0

(a) Including cantonment population.



DIX I—*contd.**Province, during each month of the year 1938—concl'd.*

3							4	5
June.	July.	August.	September.	October.	November.	December.	Total deaths registered during the year.	No.
22	37	43	43	17	36	28	379	} 12
2,544	3,808	3,616	3,137	2,650	2,770	2,491	33,839	
2,566	3,845	3,659	3,180	2,667	2,806	2,519	34,218	
48	32	44	44	66	28	20	581	} 13
2,976	3,772	4,684	3,439	3,240	3,033	2,423	37,133	
3,024	3,804	4,728	3,483	3,306	3,061	2,443	37,714	
...	3	8	2	4	5	5	45	} 14
1,858	2,249	2,081	2,072	1,785	2,043	1,709	23,167	
1,858	2,252	2,089	2,074	1,789	2,048	1,714	23,212	
66	66	63	54	60	46	66	750	} 15
2,798	3,551	3,095	2,443	2,052	2,231	2,315	31,140	
2,864	3,617	3,158	2,497	2,112	2,327	2,381	31,890	
44	77	108	77	45	82	58	816	} 16
1,109	1,289	1,310	982	963	1,123	1,076	14,205	
1,153	1,366	1,418	1,059	1,008	1,205	1,134	15,021	
1,460	1,613	1,810	1,613	1,480	1,463	1,372	18,070	} 17
61,101	67,613	70,378	68,558	62,237	69,379	62,903	745,663	
62,561	69,226	72,188	70,171	63,717	70,842	64,275	763,733	
1·1	1·2	1·3	1·2	1·1	1·1	1·0	13·5	} 18
2·0	2·2	2·3	2·2	2·0	2·2	2·0	24·0	
1·9	2·1	2·2	2·2	2·0	2·2	2·0	23·6	



## Annual Form No. IV.—Deaths registered according to age in the

1		2							
No.	District.	Deaths under							
		Not exceeding one month.						Total of columns 3 and 6.	
		Male.			Female.				
		Under one week.	Over one week.	Total.	Under one week.	Over one week.	Total.		
		1	2	3	4	5	6	7	
PATNA DIVISION.									
1	Patna district	Urban ...	63	25	88	42	46	88	176
		Rural ...	1,284	926	2,210	1,055	701	1,756	3,966
		Total ...	1,347	951	2,298	1,097	747	1,844	4,142
2	Gaya district ...	Urban ...	162	64	226	116	77	192	418
		Rural ...	3,150	1,408	4,558	2,687	1,087	3,774	8,332
		Total ...	3,312	1,472	4,784	2,802	1,164	3,966	8,750
3	Shahabad district	Urban ...	38	9	47	28	4	32	79
		Rural ...	4,262	811	5,073	3,200	536	3,736	8,809
		Total ...	4,300	820	5,120	3,228	540	3,768	8,888
TIRHUT DIVISION.									
4	Saran district ...	Urban ...	32	24	56	23	13	36	92
		Rural ...	1,528	871	2,399	1,160	768	1,928	4,327
		Total ...	1,560	895	2,455	1,183	781	1,964	4,419
5	Champaran district	Urban ...	12	6	18	16	2	18	36
		Rural ...	2,370	653	3,023	1,858	438	2,296	5,319
		Total ...	2,382	659	3,041	1,874	440	2,314	5,355
6	Muzaffarpur district	Urban ...	63	31	94	46	17	63	157
		Rural ...	1,607	1,105	2,712	1,497	672	2,169	4,881
		Total ...	1,670	1,136	2,806	1,543	689	2,232	5,038
7	Darbhanga district	Urban ...	41	21	62	26	27	53	115
		Rural ...	2,024	581	2,605	1,573	476	2,049	4,654
		Total ...	2,065	602	2,667	1,599	503	2,102	4,769
BHAGALPUR DIVISION.									
8	Monghyr district	Urban ...	53	25	78	27	14	41	119
		Rural ...	1,330	907	2,237	1,171	667	1,838	4,075
		Total ...	1,383	932	2,315	1,193	681	1,879	4,194
9	Bhagalpur district	Urban ...	24	12	36	17	11	28	64
		Rural ...	1,295	565	1,860	1,013	490	1,503	3,363
		Total ...	1,319	577	1,896	1,030	501	1,581	3,437
10	Purnea district...	Urban ...	12	6	18	10	2	12	30
		Rural ...	1,341	581	1,922	988	432	1,420	3,342
		Total ...	1,353	587	1,940	998	434	1,432	3,372
11	Santal Parganas district	Urban ...	8	2	10	2	2	4	14
		Rural ...	887	346	1,233	574	268	842	2,075
		Total ...	895	348	1,243	576	270	846	2,089



DIX I—contd.

districts of Bihar Province, during the year 1938—contd.

3

one year.

Over one month and not exceeding six months.			Over six months and not exceeding twelve months.			Total male columns 3, 8 and 11.	Total female columns 6, 9 and 12.	Total.	No.
Male.	Female.	Total.	Male.	Female.	Total.				
8	9	10	11	12	13	14	15	16	
64	56	120	43	38	81	195	182	377	1
2,093	1,720	3,813	1,246	1,229	2,475	5,549	4,705	10,254	
2,157	1,776	3,933	1,289	1,267	2,556	5,744	4,887	10,631	
149	99	248	92	90	182	467	381	848	2
2,882	2,384	5,266	2,140	1,854	3,994	9,580	8,012	17,592	
3,031	2,483	5,514	2,232	1,944	4,176	10,047	8,393	18,440	
18	15	33	20	21	41	85	68	163	3
1,863	1,452	3,315	1,361	1,155	2,516	8,297	6,343	14,640	
1,881	1,467	3,348	1,381	1,176	2,557	8,382	6,411	14,793	
31	26	57	28	17	45	115	79	194	4
1,724	1,181	2,905	1,502	1,013	2,515	5,625	4,122	9,747	
1,755	1,207	2,962	1,530	1,030	2,560	5,740	4,201	9,941	
24	25	49	22	14	36	64	57	121	5
1,525	1,259	2,784	903	647	1,550	5,451	4,202	9,653	
1,549	1,284	2,833	925	661	1,586	5,515	4,259	9,774	
66	40	106	37	47	84	197	150	347	6
1,651	1,446	3,097	890	792	1,682	5,253	4,407	9,660	
1,717	1,486	3,203	927	839	1,766	5,450	4,557	10,007	
48	46	94	29	31	60	139	130	269	7
1,416	1,357	2,773	856	718	1,574	4,877	4,124	9,001	
1,464	1,403	2,867	885	749	1,634	5,016	4,254	9,270	
44	47	91	38	24	62	160	112	272	8
1,738	1,506	3,244	1,222	1,034	2,256	5,197	4,378	9,575	
1,782	1,553	3,335	1,260	1,058	2,318	5,357	4,490	9,847	
22	15	37	17	16	33	75	59	134	9
1,087	1,144	2,231	854	773	1,627	3,801	3,420	7,221	
1,109	1,159	2,268	871	789	1,660	3,876	3,479	7,355	
15	14	29	7	2	9	40	28	68	10
1,529	1,205	2,734	564	497	1,061	4,015	3,122	7,137	
1,544	1,219	2,763	571	499	1,070	4,055	3,150	7,205	
3	2	5	6	...	6	19	6	25	11
986	699	1,685	551	482	1,033	2,770	2,023	4,793	
989	701	1,690	557	482	1,039	2,789	2,029	4,818	



## Annual Form No. IV.—Deaths registered according to age in the

1	2	Deaths under							
No.	District.	Not exceeding one month.						Total of columns 3 and 6.	
		Male.			Female.				
		Under one week.	Over one week.	Total.	Under one week.	Over one week.	Total.		
		1	2	3	4	5	6		7
CHOTA NAGPUR DIVISION.									
12	Hazaribagh district	{ Urban ...	5	6	11	7	3	10	21
		{ Rural ...	884	450	1,334	665	398	1,063	2,397
		{ Total ...	889	456	1,345	672	401	1,073	2,418
13	Ranchi district	{ Urban ...	15	4	19	7	4	11	30
		{ Rural ...	971	649	1,620	770	491	1,261	2,831
		{ Total ...	986	653	1,639	777	495	1,272	2,911
14	Palamanu district	{ Urban ...	2	...	2	1	1	2	4
		{ Rural ...	969	520	1,489	792	425	1,217	2,706
		{ Total ...	971	520	1,491	793	426	1,219	2,710
15	Manbhum district	{ Urban ...	24	11	35	12	10	22	57
		{ Rural ...	731	468	1,199	594	296	890	2,089
		{ Total ...	755	479	1,234	606	306	912	2,146
16	Singhbhum district	{ Urban ...	7	9	16	9	2	11	27
		{ Rural ...	328	160	488	208	125	333	821
		{ Total ...	335	169	504	217	127	344	848
	Total for the Province	{ Urban ...	561	255	816	388	235	623	1,439
		{ Rural ...	24,961	11,001	35,962	19,805	8,270	28,075	64,037
		{ Total ...	25,522	11,256	36,778	20,193	8,505	28,698	65,476
	Total population for the province	...	...	...	..	...	...	...	...
	Ratio per 1,000 of population	...	...	...	...	...	...	...	...



DLX I—contd.

Districts of Bihar Province, during the year 1938—contd.

3									
one year.									
Over one month and not exceeding six months.			Over six months and not exceeding twelve months.			Total male columns 3, 8 and 11.	Total female columns 6, 9 and 12.	Total.	No.
Male.	Female.	Total.	Male.	Female.	Total.				
8	9	10	11	12	13	14	15	16	
13	16	29	12	10	22	36	36	72	} 12
1,047	902	1,949	426	398	824	2,807	2,363	5,170	
1,060	918	1,978	438	408	846	2,843	2,399	5,242	
9	6	15	12	8	20	40	25	65	} 13
957	838	1,795	471	387	858	3,048	2,486	5,534	
966	844	1,810	483	395	878	3,088	2,511	5,599	
3	2	5	1	...	1	6	4	10	} 14
842	702	1,544	450	389	839	2,781	2,308	5,089	
845	704	1,549	451	389	840	2,787	2,312	5,099	
13	10	23	8	5	13	56	37	93	} 15
780	541	1,321	327	201	528	2,306	1,632	3,938	
793	551	1,344	335	206	541	2,362	1,669	4,031	
9	4	13	14	17	31	39	32	71	} 16
346	238	584	149	111	260	983	682	1,665	
355	242	597	163	128	291	1,022	714	1,736	
531	423	954	386	340	726	1,733	1,386	3,119	
22,466	18,574	41,040	13,912	11,680	25,592	72,340	58,329	130,669	
22,997	18,997	41,994	14,298	12,020	26,318	74,073	59,715	133,788	
...	...	...	...	...	...	389,476	396,266	785,742	
...	...	...	...	...	...	190·2	150·7	170·2	



## Annual Form No. IV.—Deaths registered according to age in the

1	2	3	4	5	6					
No.	District.	1 year and under 5 years.	5 years and under 10 years.	10 years and under 15 years.	15 years and under 20 years.					
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
		17	18	19	20	21	22	23	24	
PATNA DIVISION.										
1	Patna district	{ Urban ...	134	116	86	83	76	85	95	87
		{ Rural ...	4,137	4,400	837	790	478	330	342	349
		{ Total ...	4,271	4,516	923	873	554	415	457	436
2	Gaya district	{ Urban ...	462	410	89	61	53	49	47	80
		{ Rural ...	8,581	8,499	1,834	1,687	878	636	648	630
		{ Total ...	9,043	8,909	1,923	1,748	931	685	695	760
3	Shahabad district	{ Urban ...	64	53	21	25	13	22	8	15
		{ Rural ...	4,608	4,500	889	815	446	384	533	531
		{ Total ...	4,672	4,643	910	840	459	406	541	546
TIRHUT DIVISION.										
4	Saran district	{ Urban ...	81	52	22	19	24	25	22	32
		{ Rural ...	5,465	4,686	1,518	1,247	912	771	1,024	846
		{ Total ...	5,546	4,738	1,540	1,266	936	796	1,046	878
5	Champanan district	{ Urban ...	80	64	35	26	19	12	28	17
		{ Rural ...	5,670	4,903	1,599	1,300	819	567	862	609
		{ Total ...	5,750	4,967	1,634	1,326	838	579	890	626
6	Muzaffarpur district	{ Urban ...	147	161	50	34	37	34	45	40
		{ Rural ...	8,271	8,184	2,839	2,359	1,473	885	1,129	815
		{ Total ...	8,418	8,345	2,889	2,393	1,510	919	1,174	855
7	Darbhanga district	{ Urban ...	211	165	75	59	47	27	33	38
		{ Rural ...	8,940	8,456	3,577	2,762	1,822	1,138	1,477	1,118
		{ Total ...	9,151	8,621	3,652	2,821	1,869	1,165	1,510	1,151
BHAGALPUR DIVISION.										
8	Monghyr district	{ Urban ...	140	116	41	40	17	19	28	29
		{ Rural ...	6,904	6,464	1,734	1,335	890	721	794	770
		{ Total ...	7,044	6,580	1,775	1,395	907	740	822	799
9	Bhagalpur district	{ Urban ...	95	86	49	33	35	24	28	17
		{ Rural ...	5,523	4,949	2,300	1,761	1,319	914	1,050	903
		{ Total ...	5,618	5,035	2,249	1,794	1,354	938	1,078	920
10	Purnea district	{ Urban ...	37	33	11	16	15	19	21	19
		{ Rural ...	4,610	4,045	2,253	1,636	1,347	852	1,110	989
		{ Total ...	4,647	4,078	2,264	1,652	1,362	871	1,131	1,008
11	Santal Parganas district	{ Urban ...	15	9	6	4	2	2	2	4
		{ Rural ...	3,636	3,275	1,578	1,303	1,019	784	1,026	977
		{ Total ...	3,651	3,284	1,584	1,307	1,021	786	1,028	981



*districts of Bihar Province, during the year 1938—contd.*

7		8		9		10		11		12
20 years and under 30 years.		30 years and under 40 years.		40 years and under 50 years.		50 years and under 60 years.		60 years and upwards.		No.
Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
25	26	27	28	29	30	31	32	33	34	
122	141	117	98	125	105	106	118	229	227	1
917	1,185	1,033	1,060	1,033	851	1,412	1,154	3,593	2,371	
1,039	1,326	1,150	1,158	1,208	956	1,518	1,272	3,822	3,598	
129	214	146	129	127	90	161	101	319	326	2
2,020	2,335	1,908	1,869	2,043	1,613	2,309	1,977	4,259	4,614	
2,149	2,549	2,054	1,998	2,170	1,703	2,470	2,077	4,578	4,940	
22	33	23	23	25	16	36	18	71	66	3
1,502	1,957	1,545	1,567	1,510	1,186	1,413	1,464	3,386	4,276	
1,524	1,990	1,568	1,590	1,535	1,202	1,449	1,482	3,457	4,342	
53	63	69	60	46	26	45	24	206	173	4
2,459	2,289	2,365	2,042	2,097	1,634	2,260	2,250	5,652	6,064	
2,512	2,352	2,434	2,102	2,143	1,660	2,305	2,274	5,868	6,237	
62	70	68	33	50	25	35	20	45	37	5
2,377	2,351	2,525	2,080	2,481	1,976	2,452	2,197	3,256	3,231	
2,439	2,421	2,593	2,118	2,531	2,001	2,487	2,217	3,301	3,263	
88	74	96	58	66	30	62	59	87	76	6
3,389	2,671	3,927	2,856	3,584	2,798	3,702	3,519	5,507	6,298	
3,477	2,745	4,023	2,914	3,650	2,828	3,764	3,578	5,594	6,374	
95	97	112	70	112	38	94	59	107	80	7
4,129	3,409	4,269	3,113	3,736	2,793	3,598	3,553	4,878	5,337	
4,224	3,506	4,381	3,183	3,848	2,831	3,692	3,612	4,985	5,467	
44	47	43	34	35	25	21	15	98	101	8
1,978	1,814	2,041	1,675	2,125	1,484	2,539	2,354	3,979	4,259	
2,014	1,861	2,084	1,709	2,160	1,509	2,560	2,369	4,077	4,360	
58	51	70	44	64	39	76	48	73	82	9
2,798	2,667	2,966	2,505	2,757	2,113	2,613	2,327	4,305	4,172	
2,856	2,718	3,036	2,549	2,821	2,152	2,689	2,375	4,378	4,254	
46	28	43	32	33	21	23	18	27	26	10
3,253	3,722	3,378	2,928	3,102	2,145	2,378	1,867	2,808	2,335	
3,299	3,750	3,421	2,960	3,135	2,166	2,401	1,885	2,835	2,361	
5	4	13	9	9	7	5	6	16	12	11
1,981	2,129	2,032	1,716	2,000	1,416	1,879	1,557	2,310	2,226	
1,986	2,133	2,045	1,805	2,009	1,423	1,884	1,563	2,326	2,238	



## Annual Form No. IV.—Deaths registered according to age in the

1	2	3	4	5	6					
No.	District.	1 year and under 5 years.		5 years and under 10 years.		10 years and under 15 years.		15 years and under 20 years.		
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
		17	18	19	20	21	22	23	24	
CHOTA NAGPUR DIVISION.										
12	Hazaribagh district	{ Urban ...	38	49	8	10	6	8	6	6
		{ Rural ...	4,229	3,958	1,512	1,298	841	586	658	585
		{ Total ...	4,267	4,007	1,520	1,308	847	594	664	591
13	Ranchi district	{ Urban ...	51	46	15	18	19	13	11	19
		{ Rural ...	4,682	3,990	1,354	1,078	899	716	881	806
		{ Total ...	4,733	4,036	1,369	1,096	918	729	892	825
14	Palaman district	{ Urban ...	6	2	2	1	1	...	1	1
		{ Rural ...	3,113	2,917	869	711	426	270	348	258
		{ Total ...	3,119	2,919	871	712	427	270	349	359
15	Manbhum district	{ Urban ...	47	44	22	11	21	15	28	27
		{ Rural ...	2,767	2,232	1,162	967	876	628	1,136	903
		{ Total ...	2,814	2,276	1,184	978	897	643	1,164	930
16	Singhbhum district	{ Urban ...	86	45	34	17	17	16	26	20
		{ Rural ...	1,532	1,307	590	532	315	217	387	330
		{ Total ...	1,618	1,352	624	549	332	233	413	350
	Total for the Province	{ Urban ...	1,694	1,451	566	457	402	370	429	446
		{ Rural ...	82,663	76,855	26,345	21,601	14,760	10,399	13,405	11,569
		{ Total ...	84,362	78,306	26,911	22,058	15,162	10,769	13,834	12,015
Total population for the province		...	1,996,260	2,110,112	2,330,522	2,129,096	2,005,728	1,767,032	1,322,530	1,361,558
Ratio per 1,000 of population		...	42·2	37·1	11·5	10·3	7·5	6·1	10·4	9·0



## DIX I—contd.

districts of Bihar Province during the year 1938—concl'd.

7		8		9		10		11		12
20 years and under 30 years.		30 years and under 40 years.		40 years and under 50 years.		50 years and under 60 years.		60 years and upwards.		No.
Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
25	26	27	28	29	30	31	32	33	34	
20	22	16	8	13	16	17	17	29	18	12
1,532	1,615	1,522	1,295	1,470	1,084	1,600	1,587	1,692	1,605	
1,552	1,637	1,538	1,303	1,483	1,100	1,617	1,604	1,721	1,623	
28	38	30	34	32	27	21	18	49	47	13
1,649	1,598	1,603	1,368	1,622	1,250	2,022	1,753	2,171	2,157	
1,677	1,636	1,633	1,402	1,654	1,277	2,043	1,771	2,220	2,204	
...	2	2	1	3	1	4	...	8	...	14
1,022	1,043	1,059	859	953	778	875	781	833	863	
1,022	1,045	1,061	860	956	779	879	781	841	863	
39	39	63	37	63	33	44	42	40	42	15
1,957	1,739	1,961	1,405	1,661	1,050	1,648	1,371	2,036	1,703	
1,996	1,778	2,024	1,442	1,724	1,083	1,692	1,413	2,076	1,745	
87	54	80	39	71	21	35	22	44	31	16
745	625	834	549	774	521	830	680	797	975	
832	679	914	588	845	542	865	702	841	1,006	
898	977	991	714	874	520	785	585	1,448	1,344	17
33,700	33,149	34,968	28,937	32,998	24,692	33,530	30,390	51,462	53,536	
34,598	34,126	35,959	29,681	33,872	25,212	34,315	30,975	52,910	54,880	
2,763,352	2,894,276	2,341,958	2,314,501	1,595,753	1,513,295	904,766	913,225	594,542	727,186	
12.5	11.8	15.3	12.8	21.2	16.6	37.9	33.9	89.0	75.5	



Annual form No. IVA.—Deaths under one year registered according to class in each town and

1				2			3		
Registering circle.				Christians.			Hindus.		
—				Male.	Female.	Total.	Male.	Female.	Total.
PATNA.									
Patna town	...	...	...	...	...	...	64	73	137
Bihar town	...	...	...	...	...	...	34	23	57
Dinapur Nizamat...	...	...	...	...	...	...	5	4	9
Dinapur Cantonment	...	...	...	...	...	...	24	14	38
Barh town	...	...	...	...	...	...	11	10	21
Khagole town	...	...	...	...	...	...	9	12	21
Total of towns	...	...	...	...	...	...	147	136	283
Total of rural	...	...	...	...	...	...	5,108	4,330	9,438
Total of district	...	...	...	...	...	...	5,255	4,466	9,721
GAYA.									
Gaya town	...	...	...	...	...	...	327	284	611
Tikari town	...	...	...	...	...	...	13	18	31
Daudnagar town	...	...	...	...	...	...	26	19	45
Total of towns	...	...	...	...	...	...	366	321	687
Total of rural	...	...	...	...	...	...	8,931	7,509	16,440
Total of district	...	...	...	...	...	...	9,297	7,830	17,127
SHAHABAD.									
Arrah town	...	...	...	...	...	...	21	16	37
Buxar town	...	...	...	...	...	...	15	20	35
Dumraon town	...	...	...	...	...	...	5	3	8
Jagadispur town	...	...	...	...	...	...	3	2	5
Sasaram town	...	...	...	...	...	...	19	14	38
Bhabua town	...	...	...	...	...	...	8	4	12
Total of towns	...	...	...	...	...	...	71	59	130
Total of rural	...	...	...	...	...	...	8,069	6,162	14,231
Total of district	...	...	...	...	...	...	8,140	6,221	14,361



## DIX I—contd.

rural areas in the districts of Bihar Province during the year 1938—contd.

4			5			6			7		
Muhammadans.			Buddhists.			Other classes.			Total.		
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
31	29	60	...	...	...	...	...	..	95	102	197
9	9	18	...	...	...	...	...	...	43	32	75
...	...	...	...	...	...	...	...	...	5	4	9
6	6	12	...	...	...	...	...	...	30	20	50
1	!	2	...	...	...	...	...	...	12	11	23
1	1	2	...	...	...	...	...	...	10	13	23
48	46	94	...	...	...	...	...	...	195	182	377
441	375	816	...	...	...	...	...	...	5,549	4,705	10,254
489	421	910	...	...	...	...	...	...	5,744	4,887	10,631
96	54	150	...	...	...	...	...	...	423	338	761
...	...	...	...	...	...	...	...	...	13	18	31
5	6	11	...	...	...	...	...	...	31	25	56
101	60	161	...	...	...	...	...	...	467	381	848
649	503	1,152	...	...	...	...	...	...	9,580	8,012	17,592
750	563	1,313	...	...	...	...	...	...	10,047	8,393	18,440
7	2	9	...	...	...	...	...	...	28	18	46
2	4	6	...	...	...	...	...	...	17	24	41
...	...	...	...	...	...	...	...	...	5	3	8
...	...	...	...	...	...	...	...	...	3	2	5
5	2	7	...	...	...	...	...	...	24	16	40
...	1	1	...	...	...	...	...	...	8	5	13
14	9	23	...	...	...	...	...	...	85	68	153
228	181	409	...	...	...	...	...	...	8,297	6,343	14,640
242	190	432	...	...	...	...	...	...	382	6,411	14,793



Annual form No. IVA.—Deaths under one year registered according to class in each town and

1				2			3		
Registering circle.				Christians.			Hindus.		
				Male.	Female.	Total.	Male.	Female.	Total.
SARAN.									
Chapra town	...	...	...	...	...	...	64	41	105
Revelganj town	...	...	...	...	...	...	20	41	34
Siwan town	...	...	...	...	...	...	18	13	31
Total of towns	...	...	...	...	...	...	102	68	170
Total of rural	...	...	...	...	...	...	4,178	3,108	7,286
Total of district	...	...	...	...	...	...	4,280	3,176	7,456
CHAMPARAN.									
Bettiah town	...	...	...	12	9	21	16	20	36
Motihari town	...	...	...	...	...	...	20	9	29
Total of towns	...	...	...	12	9	21	36	29	65
Total of rural	...	...	...	...	2	2	4,719	3,592	8,311
Total of district	...	...	...	12	11	23	4,755	3,621	8,376
MUZAFFARPUR.									
Muzaffarpur town	...	...	...	...	...	...	46	40	86
Sitamarhi town	...	...	...	...	...	...	18	11	29
Hajipur town	...	...	...	...	...	...	63	39	102
Lalganj town	...	...	...	...	...	...	30	31	61
Total of towns	...	...	...	...	...	...	157	121	278
Total of rural	...	...	...	...	...	...	4,464	3,721	8,185
Total of district	...	...	...	...	...	...	4,621	3,342	8,463
DARBHANGA.									
Darbhanga town	...	...	...	...	...	...	88	100	188
Roserah town	...	...	...	...	...	...	16	8	24
Samastipur town	...	...	...	...	...	...	19	9	28
Madhubani town	...	...	...	...	...	...	16	13	29
Total of towns	...	...	...	...	...	...	139	130	269
Total of rural	...	...	...	...	...	...	3,771	3,251	7,022
Total of district	...	...	...	...	...	...	3,910	3,381	7,291



## DIX I—contd.

rural areas in the districts of Bihar Province during the year 1938—contd.

4			5			6			7		
Muhammadans.			Buddhists.			Other classes.			Total.		
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
13	11	24	...	...	...	...	...	...	77	52	129
...	...	...	...	...	...	...	...	...	20	14	34
...	...	...	...	...	...	...	...	...	18	13	31
13	11	24	...	...	...	...	...	...	115	79	194
1,447	1,014	2,461	...	...	...	...	...	...	5,625	4,122	9,747
1,460	1,025	2,485	...	...	...	...	...	...	5,740	4,201	9,941
11	14	25	...	...	...	...	...	...	39	43	82
5	5	10	...	...	...	...	...	...	25	14	39
16	19	35	...	...	...	...	...	...	64	57	121
732	608	1,340	...	...	...	...	...	...	5,451	4,202	9,653
748	627	1,375	...	...	...	...	...	...	5,515	4,259	9,774
17	9	26	...	...	...	...	...	...	63	49	112
4	3	7	...	...	...	...	...	...	22	14	36
15	13	28	...	...	...	...	...	...	78	52	130
4	4	8	...	...	...	...	...	...	34	35	69
40	29	69	...	...	...	...	...	...	197	150	347
789	686	1,475	...	...	...	...	...	...	5,253	4,407	9,660
829	715	1,544	...	...	...	...	...	...	5,450	4,557	10,007
...	...	...	...	...	...	...	...	...	88	100	188
...	...	...	...	...	...	...	...	...	16	8	24
...	...	...	...	...	...	...	...	...	19	9	28
...	...	...	...	...	...	...	...	...	16	13	29
...	...	...	...	...	...	...	...	...	139	130	269
1,106	873	1,979	...	...	...	...	...	...	4,877	4,124	9,001
1,106	873	1,979	...	...	...	...	...	...	5,016	4,254	9,270



## Annual form No. IVA.—Deaths under one year according to class in each town and

1	2			3		
	Christians.			Hindus.		
	Male.	Female.	Total.	Male.	Female.	Total.
MONGHYR						
Monghyr town ... ..	...	...	...	73	45	118
Jamalpur town ... ..	...	...	...	71	54	125
Total of towns ... ..	...	...	...	144	99	243
Total of rural ... ..	...	...	...	4,606	3,884	8,490
Total of district ... ..	...	...	...	4,750	3,983	8,733
BHAGALPUR.						
Bhagalpur town ... ..	...	...	...	63	54	117
Colgong town ... ..	...	...	...	12	5	17
Total of towns ... ..	...	...	...	75	59	134
Total of rural ... ..	...	...	...	3,228	2,823	6,051
Total of district ... ..	...	...	...	3,303	2,882	6,185
PURNEA.						
Purnea town ... ..	...	...	...	17	10	27
Kishenganj town ... ..	...	...	...	5	5	10
Katihar town ... ..	...	...	...	3	1	4
Forbesganj town ... ..	...	...	...	7	5	12
Total of towns ... ..	...	...	...	32	21	53
Total of rural ... ..	...	...	...	2,500	1,936	4,436
Total of district ... ..	...	...	...	2,532	1,957	4,489
SANTAL PARGANAS.						
Sahibganj town ... ..	...	...	...	6	...	6
Deoghar town ... ..	...	...	...	3	3	6
Dumka town ... ..	...	...	...	2	1	3
Madhupur town ... ..	...	...	...	6	...	6
Total of towns ... ..	...	...	...	17	4	21
Total of rural ... ..	...	...	...	1,206	864	2,070
Total of district ... ..	...	...	...	1,223	868	2,091
HAZARIBAGH.						
Hazaribagh town ... ..	...	...	...	9	14	23
Chatra „ ... ..	...	...	...	20	13	33
Giridih „ ... ..	...	...	...	6	4	10
Total of towns ... ..	...	...	...	35	31	66
Total of rural ... ..	...	...	...	2,583	2,195	4,778
Total of district ... ..	...	...	...	2,618	2,226	4,844



## DIX I—contd

rural areas in the districts of Bihar Province during the year 1938—contd.

4			5			6			7		
Muhammadans.			Buddhists.			Other classes.			Total.		
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
16	13	29	...	...	...	...	...	...	89	58	147
...	...	...	...	...	...	...	...	...	71	54	125
16	13	29	...	...	...	...	...	...	160	112	272
591	494	1,085	...	...	...	...	...	...	5,197	4,378	9,575
607	507	1,114	...	...	...	...	...	...	5,357	4,490	9,847
...	...	...	...	...	...	...	...	...	63	54	117
...	...	...	...	...	...	...	...	...	12	5	17
...	...	...	...	...	...	...	...	...	75	59	134
573	597	1,170	...	...	...	...	...	...	3,801	3,420	7,221
573	597	1,170	...	...	...	...	...	...	3,876	3,479	7,355
4	1	5	...	...	...	...	...	...	21	11	32
4	6	10	...	...	...	...	...	...	9	11	20
...	...	...	...	...	...	...	...	...	3	1	4
...	...	...	...	...	...	...	...	...	7	5	12
8	7	15	...	...	...	...	...	...	40	28	68
1,515	1,186	2,701	...	...	...	...	...	...	4,015	3,122	7,137
1,523	1,193	2,716	...	...	...	...	...	...	4,055	3,150	7,205
...	...	...	...	...	...	...	...	...	6	...	6
...	...	...	...	...	...	1	...	1	4	3	7
...	...	...	...	...	...	1	...	1	3	1	4
...	1	1	...	...	...	...	1	1	6	2	8
...	1	1	...	...	...	2	1	3	19	6	25
120	81	201	...	...	...	1,444	1,078	2,522	2,770	2,023	4,793
120	82	202	...	...	...	1,446	1,079	2,525	2,789	2,029	4,818
...	3	3	...	...	...	...	...	...	9	17	26
1	2	3	...	...	...	...	...	...	21	15	36
...	...	...	...	...	...	...	...	...	6	4	10
1	5	6	...	...	...	...	...	...	36	36	72
223	168	391	...	...	...	1	...	1	2,807	2,363	5,170
224	173	397	...	...	...	1	...	1	2,843	2,399	5,242



Annual form No. IVA.—Deaths under one year registered according to class in each town and

1				2			3		
Registering circle.				Christians.			Hindus.		
				Male.	Female.	Total.	Male.	Female.	Total.
<b>RANCHI.</b>									
Ranchi town	...	...	...	1	2	3	21	11	32
Lohardaga „	...	...	...	3	2	5	3	1	4
Total of towns	...	...	...	4	4	8	24	12	36
Total of rural	...	...	...	537	338	875	1,082	976	2,058
Total of district	...	...	...	541	342	883	1,106	988	2,094
<b>PALAMAU.</b>									
Daltonganj town...	...	...	...	...	...	...	6	4	10
Total of rural	...	...	...	16	14	30	2,590	2,158	4,728
Total of district	...	...	...	16	14	30	2,596	2,142	4,738
<b>MANBHUM.</b>									
Parulia town.	...	...	...	...	1	1	16	13	29
Raghunathpur town	...	...	...	...	...	...	3	4	7
Jhalda town	...	...	...	...	...	...	13	10	23
Dhanbad town	...	...	...	...	...	...	17	7	24
Total of towns	...	...	...	...	1	1	49	34	83
Total of rural	...	...	...	...	...	...	2,201	1,565	3,766
Total of district	...	...	...	...	1	1	2,250	1,599	3,849
<b>SINGHBHUM.</b>									
Chaibassa town	...	...	...	...	...	...	11	7	18
Chakradharpur town	...	...	...	...	...	...	6	6	12
Jugsalai town	...	...	...	...	...	...	3	2	5
Jamshedpur town	...	...	...	...	...	...	13	9	22
Total of towns	...	...	...	{ ... 16	{ ... 6	{ ... 22	33 550	24 356	57 906
Total of rural	...	...	...	16	6	22	583	380	963
Total of district	...	...	...	...	...	...	...	...	...
Province.									
Total of towns	...	...	...	16	14	30	1,433	1,152	2,585
Total of rural	...	...	...	569	360	929	59,786	48,410	108,196
Total of districts	...	...	...	585	374	959	61,219	49,562	110,781



DIX I—contd.

rural areas in the districts of Bihar Province during the year 1938—concl'd.

4			5			6			7		
Muhammadans.			Buddhists.			Other classes.			Total.		
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
7	7	14	...	...	...	2	1	3	31	21	52
...	...	...	...	...	...	3	1	4	9	4	13
7	7	14	...	...	...	5	2	7	40	25	65
190	119	309	...	...	...	1,239	1,053	2,292	3,048	2,486	5,534
197	126	323	...	...	...	1,244	1,055	2,299	3,088	2,511	5,599
...	...	...	...	...	...	...	...	...	6	4	10
175	156	331	...	...	...	...	...	...	2,781	2,308	5,089
175	156	331	...	...	...	...	...	...	2,787	2,312	5,099
2	...	2	...	...	...	...	1	1	18	15	33
...	...	...	...	...	...	1	...	1	4	4	8
...	...	...	...	...	...	...	...	...	13	10	23
4	1	5	...	...	...	...	...	...	21	8	29
6	1	7	...	...	...	1	1	2	56	37	93
57	37	94	...	...	...	48	30	78	2,306	1,632	3,938
63	38	101	...	...	...	49	31	80	2,362	1,669	4,031
1	...	1	...	...	...	...	...	...	12	7	19
4	1	5	...	...	...	...	4	4	10	11	21
1	...	1	...	...	...	...	...	...	4	2	6
...	1	1	...	...	...	...	2	2	13	12	25
6	2	8	...	...	...	...	6	6	39	32	71
7	7	14	...	...	...	410	319	723	983	682	1,665
13	9	22	...	...	...	410	319	729	1,022	714	1,736
...	...	...	...	...	...	...	...	...	...	...	...
276	210	486	...	...	...	8	10	18	1,733	1,385	3,119
8,843	7,085	15,928	...	...	...	3,142	2,474	5,616	72,340	58,329	130,669
9,119	7,295	16,414	...	...	...	3,150	2,484	5,634	74,073	59,715	133,788



Annual Form No. V.—Deaths registered according to class in the

1 No.	2 District.	3														
		Number of deaths registered.														
		Christians.			Hindus.			Muhammadans.			Buddhists.			Other classes.		
		Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
	PATNA DIVISION.															
1	Fatna ...	1	1	2	18,987	17,815	36,802	1,678	1,621	3,299	...	...	...	...	...	...
2	Gaya ...	...	...	...	32,571	30,604	63,175	3,482	3,145	6,627	...	...	...	7	13	20
3	Shahabad ...	...	1	1	23,092	22,223	45,315	1,405	1,228	2,633	...	...	...	...	...	...
	TIRHUT DIVISION.															
4	Saran ...	1	...	1	26,793	23,766	50,559	3,266	2,738	6,004	...	...	...	...	...	...
5	Champaran ...	50	56	106	23,822	20,361	44,183	4,105	3,365	7,470	...	...	...	1	...	1
6	Muzaffarpur ...	2	1	3	35,153	31,538	66,691	4,794	3,969	8,763	...	...	...	...	...	...
7	Darbhanga ...	...	...	...	3,7236	32,327	69,563	5,092	4,282	93,76	...	...	...	...	...	...
	BHAGALPUR DIVISION.															
8	Monghyr ...	4	4	8	26,313	2,3624	49,937	2,483	2,184	4,667	...	...	...	...	...	...
9	Bhagalpur ...	2	1	3	27,345	23,931	51,276	2,608	2,282	4,890	...	...	...	...	...	...
10	Purnea ...	3	6	9	1,7597	14,848	32,445	10,947	9,018	19,965	...	...	...	3	9	12
11	Santal Parganas ...	53	54	107	8,993	8,175	17,168	2,027	1,606	3,633	...	...	...	9,250	7,714	16,964
	CHOTA NAGPUR DIVISION.															
12	Hazaribagh ...	8	8	16	16,182	14,629	30,811	1,787	1,470	3,257	...	...	...	75	59	134
13	Ranchi ...	2,693	2,334	5,027	6,462	5,688	12,150	653	579	1,232	...	...	...	10,419	8,826	19,305
14	Palamau ...	120	78	198	11,157	9,947	21,104	1,035	875	1,910	...	...	...	...	...	...
15	Manbhum ...	17	21	38	15,808	12,303	28,111	831	675	1,506	...	...	...	1,277	958	2,235
16	Singhbhum ...	99	92	191	4,101	3,263	7,364	121	72	193	...	...	...	3,985	3,288	7,273
	Total for the Province	3,053	2,657	5,710	3,31,612	2,35,042	6,26,654	46,314	39,111	85,425	...	...	...	25,017	20,927	45,944



DIX I—contd.

districts of Bihar Province during the year 1938—contd.

Ratio of deaths per 1,000 of population.																No.
Christians.			Hindus.			Muhammadans.			Buddhists.			Other classes.				
Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.		
0.5	0.6	0.5	22.2	22.6	22.4	16.6	15.9	16.2	...	...	...	...	...	...	1	
...	...	...	30.3	28.9	29.5	29.6	23.1	26.1	...	...	...	17.4	35.6	26.1	2	
...	0.8	0.4	25.0	24.3	24.6	19.2	15.7	17.4	...	...	...	...	...	...	3	
3.5	...	2.2	24.9	21.5	23.2	22.1	16.9	19.4	...	...	...	...	...	...	4	
29.7	28.3	29.0	26.3	23.2	24.7	23.3	18.9	21.1	...	...	...	3.6	...	1.4	5	
4.0	2.4	3.3	27.9	24.4	26.1	25.9	19.2	22.4	...	...	...	...	...	...	6	
...	...	...	27.4	23.5	25.5	23.6	19.0	21.3	...	...	...	...	...	...	7	
3.8	4.6	4.2	25.5	23.2	24.4	22.6	18.3	20.4	...	...	...	...	...	...	8	
2.2	1.4	1.9	27.2	24.4	25.9	23.2	18.4	19.6	...	...	...	...	...	...	9	
3.0	7.0	4.9	26.4	23.9	25.2	24.0	21.0	22.5	...	...	...	0.4	1.5	0.9	10	
8.2	7.8	8.0	18.9	17.2	18.1	17.9	14.5	16.2	...	...	...	21.4	17.7	19.6	11	
4.1	5.4	5.0	27.1	23.9	25.5	21.1	16.9	18.9	...	...	...	1.1	0.8	1.0	12	
20.6	17.6	19.1	14.9	13.0	13.9	18.6	17.9	18.6	...	...	...	57.9	46.9	52.3	13	
28.3	17.9	23.0	33.2	29.7	31.5	27.7	23.5	25.6	...	...	...	...	...	...	14	
4.3	5.6	4.9	19.0	16.0	17.6	13.4	13.6	13.5	...	...	...	25.3	19.5	22.5	15	
9.8	9.6	9.8	17.2	14.6	16.0	7.3	7.0	7.2	...	...	...	19.4	15.1	17.2	16	
18.4	15.9	17.2	25.4	22.9	24.1	22.5	18.7	20.6	...	...	...	25.5	20.8	23.2		



Annual Form no. VA.—Death rates according to class, in urban and rural areas separately in each district of Bihar province during the year 1938.

Number.	Districts.			Christians.	Hindus.	Muhammadans.	Buddhists.	Other classes.	Total.
1	2			3	4	5	6	7	8
1	Patna	...	{ Urban ...	0.3	10.3	8.9	...	...	9.8
		...	{ Rural ...	1.3	24.0	20.1	...	...	23.6
2	Gaya	...	{ Urban ...	...	37.9	33.2	...	...	36.5
		...	{ Rural ...	...	20.3	35.4	...	61.7	38.9
3	Shahabad	...	{ Urban ...	2.3	5.9	6.5	...	...	6.0
		...	{ Rural ...	...	25.5	20.2	...	...	25.2
4	Saran	...	{ Urban ...	11.6	18.6	14.5	...	...	17.5
		...	{ Rural ...	...	23.3	19.7	...	...	22.7
5	Champanan	...	{ Urban ...	44.5	18.3	16.4	...	...	18.7
		...	{ Rural ...	13.0	21.8	21.3	...	1.9	24.2
6	Muzaffarpur	...	{ Urban ...	...	20.7	15.3	...	...	19.3
		...	{ Rural ...	8.9	25.3	22.7	...	...	25.3
7	Darbhanga	...	{ Urban ...	...	20.7	11.5	...	...	18.1
		...	{ Rural ...	...	25.6	21.9	...	...	25.1
8	Monghyr	...	{ Urban ...	2.3	14.9	11.3	...	...	14.0
		...	{ Rural ...	8.3	24.7	21.1	...	...	24.0
9	Bhagalpur	...	{ Urban ...	2.5	14.3	8.2	...	...	12.4
		...	{ Rural ...	1.2	26.3	20.9	...	...	25.6
10	Purnea	...	{ Urban ...	...	10.4	14.1	...	30.5	11.6
		...	{ Rural ...	5.9	25.9	22.6	...	0.6	24.2
11	Santal Parganas	...	{ Urban ...	3.9	3.2	2.3	...	1.6	3.2
		...	{ Rural ...	8.2	18.7	16.7	...	19.6	18.8
12	Hazaribagh	...	{ Urban ...	0.9	8.6	4.9	...	...	7.4
		...	{ Rural ...	7.1	26.0	20.1	...	1.0	23.1
13	Ranchi	...	{ Urban ...	5.7	12.3	7.9	...	6.2	10.0
		...	{ Rural ...	19.5	14.0	21.5	...	52.7	24.6
14	Palamau	...	{ Urban ...	...	3.9	3.4	...	...	3.7
		...	{ Rural ...	23.3	31.9	25.6	...	...	28.3
15	Manbham	...	{ Urban ...	4.1	13.2	13.7	...	297.9	13.3
		...	{ Rural ...	5.2	17.6	13.5	...	22.3	17.7
16	Singhbhum	...	{ Urban ...	4.7	8.1	5.3	...	1.7	7.1
		...	{ Rural ...	11.1	17.7	12.3	...	17.4	17.4
	Total for the Province	...	{ Urban ...	7.7	15.4	12.0	...	7.3	13.5
		...	{ Rural ...	17.9	24.5	21.3	...	23.2	24.0



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STATEMENT No. VI.

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Annual Form No. VI.—Deaths registered from different causes in the

1	2	3			4			5			6	7	8	9	10	11
No.	Districts and Towns.	Population according to census of 1931.			Births.			Birth rates.			Cholera.	Small-pox.	Plague.	Fever.	Dysentery and diarrhoea.	Respiratory diseases.
		Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.						
	DISTRICTS EX- CLUDING TOWNS.															
	PATNA DIVISION.															
1	Patna ...	811,800	776,890	1,588,190	30,303	29,099	59,401	19.1	18.3	37.4	524	293	...	25,170	527	746
2	Gaya ...	1,134,074	1,149,203	2,283,277	54,964	53,713	108,677	24.1	23.5	47.6	1,462	836	...	50,575	114	42
3	Shahabad ...	936,948	938,911	1,875,859	41,690	38,747	80,446	22.2	20.6	42.9	9.9	324	...	36,303	16	13
	TIKAR DIVISION.															
4	Saran ...	1,181,847	1,234,146	2,415,993	46,273	44,811	91,084	19.2	18.5	37.7	681	966	1,151	33,083	302	871
5	Champanan ...	1,055,771	1,044,430	2,100,201	37,858	36,179	74,037	18.0	17.2	35.2	2,682	605	127	40,550	9	10
6	Muzaffarpur ...	1,397,930	1,460,854	2,858,784	49,246	47,014	96,260	17.2	16.4	33.6	1,185	177	459	64,955	57	44
7	Darbhanga ...	1,518,105	1,549,764	3,067,869	51,864	50,078	101,942	16.9	16.3	33.2	2,577	501	3	67,259	60	20
	BHAGALPUR DIVI- SION.															
8	Monghyr ...	1,101,576	1,102,369	2,203,945	40,607	39,163	79,770	18.4	17.8	36.2	691	308	...	42,138	259	31
9	Bhagalpur ...	1,081,084	1,064,468	2,145,553	36,345	33,890	70,235	16.9	15.8	32.7	1,312	281	...	47,633	107	27
10	Purnea ...	1,101,682	1,038,438	2,140,320	32,673	29,692	62,365	15.2	13.9	29.1	619	143	...	47,486	33	26
11	Santal Parganas ...	998,960	1,003,976	2,002,936	27,007	26,660	53,667	13.4	13.3	26.7	356	132	...	34,052	110	263
	CHOTA NAGPUR DIVISION.															
12	Hazaribagh ...	725,619	740,881	1,466,500	28,007	27,587	55,594	19.1	18.8	37.9	506	30	...	28,664	102	45
13	Ranchi ...	746,329	762,726	1,509,055	25,413	23,998	49,411	16.8	15.9	32.7	154	78	...	30,554	975	60
14	Palamau ...	403,177	403,519	806,696	18,375	17,761	36,136	22.8	22.0	44.8	498	487	...	18,506	8	4
15	Manbhum ...	908,615	845,882	1,754,497	25,359	23,666	49,025	14.4	13.5	27.9	154	343	...	27,431	106	146
16	Singhbhum ...	401,278	414,089	815,367	11,341	10,914	22,255	13.9	13.4	27.3	33	39	...	12,827	59	3
	Total for the pro- vince.	15,504,995	15,630,046	31,035,041	557,333	532,972	1,090,305	17.9	17.2	35.1	14,423	5,493	1,740	607,164	2,744	2,351
	TOWNS.															
	PATNA DISTRICT.															
1	Patna City ...	92,338	67,452	159,690	1,148	978	2,126	7.2	6.1	13.3	15	16	...	466	233	347
2	Bihar ...	24,532	22,462	46,994	277	282	559	5.9	6.0	11.9	8	18	...	166	22	12
3	Dinapore ...	12,347	11,874	24,221	91	76	167	3.8	3.1	6.9	1	...	...	35	8	6
4	Barh ...	5,179	4,571	9,750	181	96	227	13.4	9.9	23.3	4	...	...	59	8	6
5	Khagole ...	4,119	3,293	7,412	85	71	156	11.4	9.6	21.0	...	3	...	47	2	7
	GAYA DISTRICT.															
	Gaya ...	50,625	37,380	88,005	1,337	1,290	2,627	15.2	14.6	29.3	36	137	...	1,685	175	75
	Tikari ...	26,887	2,794	5,481	109	122	231	19.9	27.2	42.1	...	...	...	110	...	...
	Daudnagar ...	6,267	5,442	11,699	213	168	381	18.2	14.3	32.5	2	6	...	164	4	3



DIX I—contd.

districts and towns of Bihar Province, during the year 1938—contd.

12						13	14			15														16	
Injuries.						All other causes.	Total deaths from all causes.			Ratio of deaths per 1,000 of population.														No.	
Suicide.		Wounds or accidents.	Snake-bite or killed by wild animals.	Rabies.	Total.		Male.	Female.	Total.	Cholera.	Small-pox.	Plague.	Fever.	Dysentery and diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	From all causes.							
Male.	Female.																	Male.	Female.	Total.	Male.	Female.	Total.		Mean of previous five years.
60	100	146	180	2	488	9,828	19,381	18,195	37,576	0·3	0·2	...	15·8	0·3	0·5	0·3	6·2	23·8	23·4	23·6	22·2	1			
39	40	166	235	5	485	12,467	34,060	31,921	65,981	0·6	0·4	...	22·1	0·05	0·03	0·2	5·4	30·0	27·8	28·9	27·7	2			
26	72	118	175	...	391	9,207	24,129	23,113	47,242	0·5	0·2	...	19·3	0·008	0·006	0·2	4·9	25·7	24·6	25·2	24·1	3			
87	126	303	433	5	954	17,420	29,377	25,951	55,328	0·2	0·4	0·4	13·7	0·08	0·3	0·3	7·2	24·8	21·0	22·9	20·4	4			
9	26	120	319	1	475	6,450	27,492	23,416	50,908	1·3	0·3	0·06	19·3	0·001	0·2	0·2	3·1	26·0	22·4	24·2	21·4	5			
30	48	430	574	27	1,109	5,880	39,074	34,792	73,866	0·4	0·06	0·1	22·7	0·01	0·01	0·4	2·0	37·9	23·8	25·8	24·0	6			
13	17	613	617	7	1,267	5,469	41,303	35,853	77,156	0·8	0·1	0·001	21·9	0·01	0·006	0·4	1·8	27·2	23·1	25·1	22·0	7			
31	28	244	379	27	709	9,311	28,173	25,274	53,447	0·3	0·1	...	19·1	0·1	0·01	0·3	4·2	25·6	22·9	24·2	24·5	8			
34	34	123	301	5	497	5,277	29,332	25,731	55,063	0·6	0·1	...	22·2	0·04	0·01	0·2	2·4	27·7	24·2	25·6	25·3	9			
67	53	99	380	4	603	2,985	29,254	23,641	51,895	0·3	0·07	...	22·2	0·01	0·01	0·3	1·4	25·6	22·8	24·2	26·4	10			
39	33	63	118	12	265	2,589	20,231	17,486	37,717	0·1	0·06	...	17·0	0·05	0·1	0·1	1·2	20·2	17·4	18·8	19·5	11			
64	71	105	114	2	356	4,136	17,863	15,976	33,839	0·3	0·02	...	19·5	0·06	0·03	0·2	2·8	24·6	21·5	23·1	22·5	12			
21	15	189	219	1	445	4,867	19,931	17,202	37,133	0·1	0·05	...	20·2	0·6	0·04	0·2	3·2	26·7	22·5	24·6	22·9	13			
14	29	76	129	9	257	3,457	12,379	10,898	23,167	0·6	0·5	...	22·9	0·01	0·005	0·3	4·3	30·4	27·0	28·7	27·7	14			
25	16	191	103	7	343	2,618	17,510	13,630	31,140	0·08	0·2	...	15·6	0·06	0·08	0·2	1·4	19·2	16·1	17·7	15·0	15			
18	19	17	79	2	135	1,109	7,787	6,418	14,205	0·04	0·04	...	15·7	0·07	0·003	0·1	1·3	19·4	15·5	17·4	17·7	16			
377	727	3,003	4,355	116	8,778	102,950	396,176	349,487	745,663	0·5	0·2	0·05	19·5	0·09	0·07	0·3	3·3	25·5	22·5	24·0	23·0				
2	...	83	9	1	95	669	883	958	1,741	0·1	0·1	...	2·9	1·4	1·5	0·6	4·2	9·0	12·7	10·9	15·5	1			
...	...	15	1	...	16	82	182	142	324	0·2	0·3	...	3·5	0·4	0·2	0·3	1·9	7·4	6·3	6·9	8·0	2			
...	...	...	...	...	...	39	42	47	89	00·4	...	...	1·4	0·3	0·2	...	1·6	3·4	3·9	3·7	11·4	3			
...	...	5	1	...	6	20	47	56	103	0·4	...	...	6·1	0·8	0·6	0·6	2·1	9·0	12·2	10·6	14·4	4			
...	1	2	...	...	3	22	48	36	84	...	0·4	...	6·3	0·2	0·9	0·4	2·9	11·6	10·9	11·3	12·0	5			
1	1	109	1	...	112	1,007	1,820	1,667	3,487	0·4	1·5	...	21·4	2·0	0·6	1·3	12·1	35·9	44·6	39·6	37·1	6			
...	1	1	...	...	2	24	65	71	136	...	...	...	20·1	...	...	0·3	4·4	24·2	25·4	24·8	22·4	7			
...	...	2	2	...	4	35	115	103	218	0·2	0·5	...	14·0	0·3	0·2	0·3	3·0	18·4	18·8	18·6	20·1	8			



## Annual Form No. VI.—Deaths registered from different causes in the

1	2	3			4			5			6	7	8	9	10	11
No.	Districts and Towns.	Population according to census of 1931.			Births.			Birth rate.			Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and diarrhoea.	Respiratory diseases.
		Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.						
TOWNS—contd.																
SHAHABAD DISTRICT.																
9	Arrah ...	26,635	22,287	48,922	304	246	550	6·2	5·0	11·2	...	6	...	95	17	8
10	Buxar ...	7,430	6,019	13,449	186	147	333	13·8	10·9	24·7	6	2	...	100	2	5
11	Dumraon ...	7,602	6,810	14,412	124	121	245	8·6	8·4	17·0	2	2	...	20	1	...
12	Jagadispur ..	4,791	4,870	9,661	47	79	126	4·8	8·2	13·0	...	1	...	33	1	...
13	Sasaram ...	12,473	12,702	25,175	307	272	579	12·2	10·8	23·0	8	2	...	139	...	4
14	Bhabhua ...	3,220	2,782	6,002	81	72	153	13·6	12·0	25·5	1	...	...	38	...	...
SARAN DISTRICT.																
15	Chapra...	25,934	21,514	47,448	689	604	1,293	14·5	12·7	27·2	7	36	1	309	42	55
16	Revelganj ...	4,297	4,525	8,812	177	172	349	20·1	19·5	39·6	10	...	...	73	17	6
17	Siwan ...	7,981	6,234	14,215	209	191	400	14·7	13·4	28·1	...	7	21	90	...	1
CHAMPARAN DISTRICT.																
18	Bettiah ...	14,659	13,282	27,941	510	526	1,036	18·2	16·8	37·0	43	30	54	219	2	4
19	Motihari ...	10,526	7,019	17,545	152	134	286	8·7	7·6	16·3	...	...	...	109	7	1
MUZAFFARPUR DISTRICT.																
20	Muzaffarpur ...	25,050	17,099	42,149	482	339	821	11·2	7·8	19·0	39	57	8	256	32	20
21	Sitamarhi ...	6,255	4,446	10,701	165	126	291	15·4	11·9	27·3	5	2	...	114	7	4
22	Hajipur ...	9,936	9,363	19,299	306	250	556	15·9	12·9	28·8	14	10	14	215	27	22
23	Lalganj...	4,676	4,516	9,192	163	140	303	17·7	15·2	32·9	2	1	...	123	24	8
DARBHANGA DISTRICT.																
24	Darbhanga ...	32,274	28,402	60,676	907	821	1,728	14·9	13·5	28·4	18	27	...	569	75	43
25	Rosera ...	4,533	4,336	8,869	116	112	228	13·1	12·6	25·7	10	9	...	29	5	...
26	Samastipur ...	6,101	3,790	9,891	133	99	232	13·4	10·0	23·4	...	...	...	45	3	10
27	Madhubani ...	9,946	8,843	18,789	237	195	432	12·6	10·3	22·9	5	...	...	96	10	4
MONGHYR DISTRICT.																
28	Monghyr ...	27,843	25,020	52,863	665	608	1,273	12·6	11·5	24·1	10	60	...	215	55	24
29	Jamalpur ...	16,378	13,968	30,346	541	473	1,014	17·8	15·6	33·4	7	7	...	221	41	14
BHAGALPUR DISTRICT.																
30	Bhagalpur ...	46,868	36,979	83,847	585	431	1,016	6·9	5·2	12·1	43	22	...	520	39	27
31	Colgong ..	2,632	2,601	5,233	64	54	118	12·2	10·3	22·5	3	3	...	75	13	7
PUENNA DISTRICT.																
32	Purnea ...	9,255	6,219	15,474	175	141	316	11·3	9·1	20·4	...	...	...	251	20	12
33	Kishanganj ...	5,817	3,129	8,946	67	56	123	7·5	6·2	13·7	...	...	...	50	1	3
34	Katihar ...	9,014	6,850	15,864	93	63	156	5·8	4·0	9·8	8	1	...	42	3	1
35	Forbesganj ...	3,713	2,226	5,939	64	53	117	10·8	8·9	19·7	...	...	...	57	1	1



## DIX I—contd.

districts and towns of Bihar Province, during the year 1938—contd.

11						12	13			14														15
Injuries.						All other causes.	Total deaths from all causes.			Ratio of deaths per 1,000 of population.														No.
Suicide.		Wounds or accidents.	Snake-bite or killed by wild animals.	Rabies.	Total.		Male.	Female.	Total.	Cholera.	Small-pox.	Plague.	Fever.	Dysentery and diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	From all causes.						
Male.	Female.																	Male.	Female.	Total.	Male.	Female.	Total.	
1	1	10	2	1	15	65	124	82	206	...	0.1	...	1.9	0.3	0.1	0.3	1.3	4.6	3.7	4.2	4.3	9		
...	2	3	3	...	8	41	77	87	164	0.4	0.1	...	7.4	0.1	0.4	0.6	3.0	10.3	14.4	12.2	11.0	10		
1	...	1	1	...	3	12	19	21	40	0.1	0.1	...	1.4	0.07	...	0.2	0.8	2.5	3.1	2.7	3.7	11		
...	...	1	...	...	1	6	16	26	42	...	0.1	...	3.4	0.1	...	0.1	0.6	3.3	5.3	4.3	7.7	12		
1	2	3	...	...	6	44	106	97	203	0.3	0.08	...	5.5	...	0.1	0.2	1.7	8.5	7.0	8.0	9.1	13		
...	...	...	...	...	...	13	26	26	52	0.1	...	...	6.3	...	...	...	2.1	8.0	9.3	8.6	9.3	14		
...	...	61	2	...	63	390	517	383	903	0.1	0.7	0.02	6.5	0.8	1.1	1.3	8.2	19.9	17.9	19.0	20.6	15		
...	...	3	...	...	3	46	76	79	155	1.1	...	...	8.2	1.9	0.6	0.3	5.3	17.7	17.4	17.5	20.1	16		
...	...	...	...	...	...	59	90	88	178	...	0.4	1.4	6.3	...	0.07	...	4.1	11.2	14.1	12.5	13.6	17		
...	...	2	...	...	2	289	345	289	634	1.5	1.0	1.9	7.8	0.07	0.07	0.07	10.2	23.5	21.7	23.7	15.9	18		
...	...	6	...	...	6	65	141	77	218	...	...	...	6.2	0.4	0.3	0.3	5.4	13.4	11.0	12.4	11.6	19		
1	1	38	3	...	43	223	407	371	678	0.9	1.3	0.2	5.9	0.7	0.4	1.0	5.1	16.1	15.0	16.7	16.1	20		
...	...	2	...	...	2	56	104	86	190	0.4	0.2	...	10.6	0.6	0.3	0.2	5.2	16.6	19.3	17.7	23.6	21		
1	...	23	6	...	30	172	260	244	564	0.7	0.5	0.7	11.1	1.4	1.1	1.6	8.9	26.1	26.0	26.1	20.9	22		
1	...	5	4	...	10	51	104	115	219	0.2	0.1	...	13.3	2.6	0.8	1.1	5.5	22.2	25.4	23.8	22.5	23		
6	1	59	2	4	72	566	802	568	1,370	0.3	0.4	...	9.3	1.2	0.7	1.1	9.3	24.6	19.9	22.3	22.3	24		
...	...	2	2	...	4	64	66	55	121	1.1	1.0	...	3.3	0.5	...	0.4	7.2	14.5	12.6	13.6	15.5	25		
1	...	1	...	...	2	51	56	55	111	...	...	...	4.5	0.3	1.0	0.2	5.1	9.1	14.5	11.2	12.2	26		
1	...	3	...	...	4	63	101	80	181	0.2	...	...	5.1	0.5	0.2	0.2	3.3	10.1	9.0	9.6	12.7	27		
...	2	...	...	1	2	320	375	311	686	0.2	1.1	...	4.0	1.0	0.4	0.04	6.0	13.5	12.4	13.0	13.4	28		
3	...	7	5	...	15	174	252	227	479	0.2	0.2	...	7.3	1.3	0.4	0.5	5.7	15.4	16.2	15.8	18.2	29		
6	2	36	4	...	46	288	549	438	987	0.5	0.2	...	6.2	0.4	0.3	0.5	3.4	11.7	11.8	11.7	14.9	30		
...	...	1	1	...	2	16	74	45	119	0.5	0.5	...	14.3	2.4	1.3	0.4	3.0	28.1	17.3	22.7	21.4	31		
1	...	18	1	...	20	40	205	138	343	...	...	...	16.2	1.3	0.8	1.3	2.6	22.1	22.2	22.2	15.2	32		
...	...	...	...	...	...	11	29	35	64	...	...	...	5.6	0.1	0.2	...	1.2	5.0	11.2	7.1	8.4	33		
...	2	2	...	...	4	2	23	33	61	0.5	0.06	...	2.6	0.2	0.06	0.2	0.1	3.1	4.8	3.9	3.9	34		
...	...	...	...	...	...	9	34	34	68	...	...	...	9.6	0.1	0.1	...	1.5	9.1	15.3	11.4	16.0	35		



Annual Form No. VI.—Deaths registered from different causes in the

1	2	3			4			5			6	7	8	9	10	11
No.	District and Town.	Population according to census of 1931.			Births.			Birth rate.			Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and diarrhoea.	Respiratory diseases.
		Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.						
TOWNS— <i>continued</i> .																
SANTAL PARGANAS DISTRICT.																
36	Sahibganj ...	8,530	7,353	15,883	66	52	118	4.1	3.3	7.4	...	...	...	27	3	2
37	Deoghar ...	8,117	6,100	14,217	19	16	35	1.3	1.1	2.4	1	...	..	26	...	1
38	Dumka ...	5,817	4,154	9,971	32	31	63	3.3	3.3	6.6	...	...	...	25	...	...
39	Madhupur ...	4,997	3,968	8,965	36	32	68	4.0	3.6	7.6	9	...	...	18	1	2
HAZARIBAGH DISTRICT.																
40	Hazaribagh ...	10,903	10,074	20,977	227	226	453	10.8	10.8	21.6	...	...	...	138	1	3
41	Chatra ...	4,312	4,446	8,758	168	137	305	19.2	15.6	34.8	...	1	...	119	3	1
42	Giridih ...	11,122	10,000	21,122	87	64	151	4.1	3.0	7.1	3	1	...	46	3	1
RANCHI DISTRICT.																
43	Ranchi ...	26,918	23,599	50,517	470	426	896	9.3	8.4	17.7	4	3	...	200	22	7
44	Lohardaga ...	3,816	3,761	7,577	97	88	185	12.8	11.6	24.4	...	...	...	38	11	3
PALAMU DISTRICT.																
45	Daltonganj ...	6,601	5,489	12,040	101	72	173	8.4	6.0	14.4	...	2	...	24	1	...
MANIKPUR DISTRICT.																
46	Purulia ...	14,888	11,586	26,474	277	203	480	10.6	7.8	18.4	...	9	...	227	1	5
47	Raghunathpur ..	3,654	3,485	7,139	121	105	226	16.9	14.7	31.6	1	...	...	93	...	...
48	Jhalda ...	3,470	3,454	6,924	93	79	172	13.4	11.4	24.8	...	...	...	76	...	...
49	Dhanbad ...	9,882	6,476	16,358	243	240	483	14.8	14.7	29.5	...	2	...	81	13	10
SINGBHM DISTRICT.																
50	Chaibassa ...	5,716	5,089	10,805	134	104	238	12.4	9.8	22.0	...	...	...	116	6	...
51	Chakradharpur ..	6,215	4,976	11,191	75	99	174	6.7	8.8	15.5	1	1	...	75	2	1
52	Jugsalai ...	5,075	3,646	8,721	134	104	238	16.3	11.9	27.2	...	...	...	33	...	...
53	Jamshedpur ...	51,137	32,601	83,738	310	277	587	3.7	3.3	7.0	...	...	...	284	16	2
(a)	Total for all Towns	793,983	592,193	1,386,176	13,630	11,965	25,595	10.3	9.0	19.3	326	484	98	8,691	980	679
(a)	Total for the whole Province.	16,238,978	16,132,239	32,361,217	570,963	544,937	1,115,900	17.7	16.8	34.5	14,749	5,977	1,638	615,675	3,724	3,030

(a) Excluding cantonment population.



DIX I—contd.

districts and towns of Bihar Province, during the year 1938—concl'd.

11						12	13			14														15
Injuries.						All other causes.	Total deaths from all causes.			Ratio of deaths per 1,000 of population.														No.
Suicide.		Wounds or accidents.	Snake-bite or killed by wild animals.	Rabies.	Total.		Male.	Female.	Total.	Cholera.	Small-pox.	Plague.	Fever.	Dysentery and diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	From all causes.						
Male.	Female.																	Male.	Female.	Total.	Male.	Female.	Total.	
...	...	6	...	...	6	5	28	15	43	...	...	...	1.7	0.2	0.1	0.4	0.3	3.3	2.0	2.0	3.6	36		
...	...	1	...	...	1	10	22	17	39	0.07	...	...	1.8	...	0.07	0.07	0.7	2.7	2.6	2.7	5.1	37		
...	...	...	...	...	...	3	18	12	30	...	...	...	2.6	...	0.2	...	0.3	3.3	2.8	3.1	4.3	38		
...	...	...	...	1	1	12	24	19	43	1.0	...	...	2.0	0.1	9.2	0.1	1.3	4.8	4.8	4.8	4.6	39		
2	3	2	...	...	7	21	85	85	170	...	...	...	6.6	0.04	0.1	0.3	1.0	7.7	8.4	8.1	10.0	40		
...	...	3	...	...	3	25	77	75	152	...	0.1	...	13.6	0.3	0.1	0.3	2.8	17.8	16.8	17.3	13.1	41		
...	...	...	...	...	...	3	27	30	57	0.1	0.04	...	2.2	0.1	0.04	...	0.1	2.4	3.0	2.7	5.2	42		
...	1	1	..	...	2	275	243	250	513	0.07	0.05	...	3.9	0.4	0.1	0.03	5.4	9.7	10.6	10.1	5.9	43		
...	...	1	...	...	1	15	33	35	68	...	...	...	5.0	1.4	0.4	0.1	1.9	8.6	9.3	8.9	17.3	4		
...	...	5	2	...	7	11	33	12	45	...	0.1	...	2.0	0.08	...	0.6	0.9	5.0	2.2	3.7	5.9	44		
...	...	5	...	...	5	24	149	122	271	...	0.3	...	8.7	0.03	0.2	0.2	0.9	10.3	10.5	10.3	11.0	46		
...	...	...	...	...	...	4	55	43	98	0.1	...	...	13.0	...	...	...	0.5	15.0	12.3	13.7	19.6	47		
...	...	...	...	...	...	19	53	42	95	...	...	...	10.9	...	...	...	2.7	15.2	13.2	13.7	16.6	48		
...	...	7	...	...	7	173	166	120	286	...	0.1	...	4.9	0.7	0.6	0.4	10.5	16.7	18.5	17.4	12.5	49		
...	...	2	2	...	4	44	111	59	170	...	...	...	10.8	0.5	...	0.3	4.1	19.4	11.6	15.8	17.4	50		
...	...	...	1	...	1	30	63	48	111	0.09	0.09	...	6.7	0.2	0.09	0.09	2.7	10.1	9.6	9.9	9.1	51		
...	...	...	...	...	...	8	26	15	41	...	...	...	3.7	...	..	...	0.9	5.1	4.1	4.7	6.4	52		
3	2	22	2	...	29	153	319	175	494	...	...	...	3.5	0.2	0.02	0.3	1.8	6.2	5.3	5.0	5.0	53		
31	22	559	57	8	677	5,949	9,737	8,147	17,884	0.2	0.4	0.07	6.6	0.7	0.5	0.5	14.5	13.2	11.1	13.5	14.3	...		
608	749	2,562	4,412	124	9,455	108,899	405,913	357,634	763,547	0.4	0.2	0.05	19.0	0.1	0.09	0.3	3.4	25.0	22.2	23.6	22.0	...		



APPENDIX TO ANNUAL

*Births and Deaths registered in the cantonment of the*

1	2	3	4	5	6	7	8	9	10									
No.	Name of cantonment.	Indian non-military population according to Census of 1931.			Births.			Birth-rate.			Cholera.	Small-pox.	Plague.	Fevers.	Dysentery and diarrhoea.	Respiratory diseases.		
		Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.								
1	Dinapur	...	...	5,909	4,308	10,217	128	150	278	12·5	14·7	27·2	1	...	...	91	2	10



FORM No. VI.

Bihar Province, during the year 1938.

11						12	13			14											15
Injuries.						All other causes.	Total deaths from all causes.			Ratio of deaths per 1,000 of population.								All causes.			No.
Male.	Fetiale.	Wounds or accidents.	Snake-bite or killed by wild animals.	Rabies.	Total.		Male.	Female.	Total.	Cholera.	Small-pox.	Plague.	Fever.	Dysentery and diarrhoea.	Respiratory diseases.	Injuries.	All other causes.	Male.	Female.	Total.	
...	...	...	...	...	...	82	83	103	166	0.1	...	...	8.9	0.2	0.9	...	8.0	14.0	23.9	18.2	1



*Deaths registered from different kinds of fevers,*

Municipalities.	Malaria.	Enteric Fever.	Measles.	Relapsing Fever (Spirochaetal).	Kala Azar.	Influenza.	Cerebrospinal Fever.	Thyphus Fever.	Blackwater Fever.	Other Fevers.	Dysentery.	Diarrhoea.
1	2	3	4	5	6	7	8	9	10	11	12	13
PATNA DISTRICT.												
Patna City ... ..	60	78	11	...	..	...	...	...	...	317	197	26
Bihar ... ..	...	...	...	...	...	...	...	...	...	166	22	...
Dinapore ... ..	...	...	...	...	...	...	...	...	...	35	6	2
Barh ... ..	...	...	...	...	...	...	...	...	...	59	7	1
Mhagola ... ..	...	...	...	...	...	...	...	...	...	47	2	...
GAYA DISTRICT.												
Gaya ... ..	...	1,011	...	...	...	...	...	...	...	874	175	...
Tikari ... ..	...	...	...	...	...	...	...	...	...	110	...	...
Daudnagar ... ..	...	...	...	...	...	...	...	...	...	164	2	2
SHAHABAD DISTRICT.												
Arrah ... ..	...	...	...	...	...	...	...	...	...	95	12	5
Buxar ... ..	...	...	...	...	...	...	...	...	...	100	2	...
Dumraon ... ..	...	...	...	...	...	...	...	...	...	20	1	...
Jagdishpur ... ..	2	...	...	...	...	...	...	...	...	31	1	...
Sasaram ... ..	...	...	...	...	...	...	...	...	...	139	...	...
Bhabua ... ..	...	...	...	...	...	...	...	...	...	38	...	...
CHAMPARAN DISTRICT.												
Bettiah ... ..	...	...	...	...	...	...	...	...	...	219	1	1
Motihari ... ..	...	...	...	...	...	...	...	...	...	109	7	...
MUZAFFARPUR DISTRICT.												
Muzaffarpur ... ..	...	...	...	...	...	...	...	...	...	256	26	6
Hajipur ... ..	...	...	...	...	...	...	...	...	...	215	13	14
Lalganj ... ..	...	...	...	...	...	4	...	...	...	119	15	9
Sitamarhi ... ..	...	...	...	...	...	...	...	...	...	114	2	5
MONGHYR DISTRICT.												
Monghyr ... ..	3	...	5	...	2	27	...	11	9	158	20	35
Jamalpur ... ..	...	...	...	...	...	...	...	...	...	221	5	36
PURNEA DISTRICT.												
Purnea ... ..	217	...	...	...	...	...	...	...	...	34	12	8
Katihar ... ..	40	...	...	...	...	...	...	...	...	2	...	3
Kishanganj ... ..	49	...	...	...	...	...	...	...	...	1	1	...
Forbesganj ... ..	49	...	...	...	...	...	...	...	...	6	1	...
SANTAL PARGANAS.												
Sahibganj ... ..	...	...	...	...	...	...	...	...	...	27	3	1
Deoghar ... ..	3	...	...	...	...	...	...	...	...	21	...	...
Dumka ... ..	7	...	...	...	...	...	...	...	...	18	...	...
Madhupur ... ..	...	...	...	...	...	...	...	...	...	18	1	...
RANCHI DISTRICT.												
Ranchi ... ..	...	...	...	...	...	...	...	...	...	200	22	...
Lohardaga ... ..	...	...	...	...	...	...	...	...	...	38	11	...
MANBHUM DISTRICT.												
Purulia ... ..	...	...	...	...	...	...	...	...	...	227	1	...
Jhalda ... ..	37	6	...	...	...	...	...	...	...	33	...	...
Baghunathpur ... ..	...	...	...	...	...	...	...	...	...	93	...	...
Dhantadi ... ..	...	...	1	...	...	1	...	4	...	75	12	1
SINGHBHUM DISTRICT.												
Chaibasa ... ..	4	...	...	...	...	...	...	7	...	105	4	2
Chakradharpur ... ..	4	...	...	...	...	...	...	3	...	68	2	...
Jugsalai ... ..	4	...	...	...	...	...	...	2	...	27	...	...
Jamshedpur ... ..	17	...	...	...	...	...	...	21	...	256	11	5
SARAN DISTRICT.												
Chapra ... ..	4	...	...	1	12	...	...	3	...	289	23	19
Revilganj ... ..	12	...	...	...	...	...	...	...	...	61	7	10
Saran ... ..	14	...	...	...	...	...	...	...	...	76	...	...



No. VI(a)

dysentery, diarrhoea, respiratory diseases and other causes.

Pneumonia.	Pulmonary Tuberculosis.	Whooping cough.	Other respiratory diseases.	Beri-beri.	Acute poliomyelitis.	Diphtheria.	Chicken-pox.	Mumps.	Tuberculosis of joints.	Other tubercular diseases.	Leprosy.	Cancer.	Deaths from child-birth.	Deaths under one year.	Infantile mortality rate per 1,000 births.
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
117	116	14	...	...	...	...	7	...	...	5	2	9	...	197	92.7
...	...	...	12	...	...	...	...	...	...	...	...	...	...	75	134.2
...	...	...	6	...	...	...	...	...	...	...	...	...	...	9	53.9
...	...	...	6	...	...	...	...	...	...	...	...	...	...	23	101.3
...	...	...	7	...	...	...	...	...	...	...	...	...	...	23	147.4
...	...	...	75	...	...	...	147	...	...	...	...	...	21	761	299.6
...	...	...	...	...	...	...	...	...	...	9	...	...	10	31	134.2
...	...	...	3	...	...	...	...	...	...	8	...	...	18	56	149.6
...	...	...	8	...	...	...	...	...	...	...	...	...	...	46	83.6
...	...	...	5	...	...	...	...	...	...	...	...	...	...	41	123.1
...	...	...	...	...	...	...	...	...	...	...	...	...	1	8	31.6
...	...	...	...	...	...	...	2	...	...	1	...	...	1	5	39.7
...	...	...	4	...	...	...	...	...	...	...	...	...	...	40	69.1
...	...	...	...	...	...	...	...	...	...	...	...	...	...	13	85.0
...	...	4	...	...	...	...	...	...	...	...	...	...	...	82	79.1
...	...	1	...	...	...	...	...	...	...	...	...	...	...	39	136.3
...	...	3	17	...	...	...	10	...	...	...	...	...	14	112	136.4
...	...	1	21	...	...	...	8	...	...	...	...	...	14	130	233.8
...	...	3	5	...	...	...	...	1	...	...	...	...	9	69	227.7
...	...	1	3	...	...	...	2	...	...	2	...	...	...	36	122.8
...	...	...	24	...	...	...	13	...	...	...	...	...	10	147	115.5
...	...	...	14	...	...	...	...	...	...	...	...	...	6	125	123.3
...	...	1	11	...	...	...	...	...	...	...	...	...	...	32	101.2
...	...	...	1	...	...	...	...	...	...	...	...	...	...	4	25.7
...	...	...	2	...	...	...	...	...	...	...	...	...	1	20	102.6
...	...	...	1	...	...	...	...	...	...	...	...	...	...	12	102.5
...	...	...	9	...	...	...	...	...	...	...	...	...	...	6	50.9
...	...	...	1	...	...	...	...	...	...	...	...	...	...	7	209.0
...	...	...	2	...	...	...	...	...	...	...	1	...	...	4	63.5
...	...	...	2	...	...	...	...	...	...	...	...	...	...	8	117.6
...	...	...	7	...	...	...	...	...	...	...	...	...	...	53	58.0
...	...	...	3	...	...	...	...	...	...	...	...	...	...	13	70.3
...	...	...	5	...	...	...	9	...	...	...	...	...	...	33	68.7
...	...	...	...	...	...	...	...	...	...	...	1	...	3	23	133.7
...	...	...	...	...	...	...	...	...	...	...	...	...	...	8	35.4
1	...	...	9	1	...	...	1	...	...	...	...	...	7	29	60.0
...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	79.8
...	...	...	1	...	...	...	...	...	...	...	...	...	...	21	120.7
...	...	...	...	...	...	...	...	...	...	...	...	...	...	6	25.2
...	...	...	2	...	...	...	...	...	...	...	...	...	...	25	42.6
16	35	...	14	1	...	3	...	...	...	...	...	...	5	139	99.7
...	...	...	6	...	...	...	...	...	...	...	...	...	...	34	97.5
...	...	...	1	...	...	...	...	...	...	...	...	...	...	31	77.5











## Annual Form No. VII.—Deaths registered from Cholera in the

1	2	3	4	5								
No.	District.	Circles of registration.		Villages.		January.	February.	March.	April.	May.	June.	July.
		Number in each district.	Number from which deaths from cholera were reported.	Number in each district.	Number from which deaths from cholera were reported.							
PATNA DIVISION.												
1	Patna ... ..	20	19	2,315	181	2	1	1	14	13	30	55
2	Gaya ... ..	16	15	6,058	366	2	3	14	16	123	304	485
3	Shahabad ... ..	17	9	4,735	251	13	...	4	8	33	91	195
	Total ... ..	53	43	13,108	798	17	4	19	38	169	425	735
TIRHUT DIVISION.												
4	Saran ... ..	13	12	4,305	179	2	...	4	17	55	7	69
5	Champanan ... ..	11	10	2,548	428	...	...	...	6	67	230	431
6	Muzaffarpur ... ..	14	11	4,059	261	39	23	58	63	39	16	29
7	Darbhanga ... ..	14	14	3,135	517	53	431	42	60	23	24	21
	Total ... ..	52	47	14,047	1,385	94	454	104	146	184	277	540
BHAGALPUR DIVISION.												
8	Monghyr ... ..	13	13	2,610	186	...	...	45	39	28	105	159
9	Bhagalpur ... ..	14	13	3,080	118	...	28	38	96	100	100	144
10	Purnea ... ..	17	14	4,160	227	25	...	24	75	9	8	...
11	Santal Parganas ... ..	10	8	10,160	159	7	...	7	7	3	23	93
	Total ... ..	54	48	20,010	690	32	28	114	217	145	236	396
CHOTA NAGPUR DIVISION.												
12	Hazaribagh ... ..	21	16	6,087	134	15	1	21	3	15	73	209
13	Ranchi ... ..	32	14	3,838	100	...	...	...	...	8	29	86
14	Palamau ... ..	10	6	3,134	101	...	...	...	2	19	56	135
15	Manbhum ... ..	35	22	4,642	60	10	5	1	13	19	10	32
16	Singhbhum ... ..	13	5	3,013	5	...	...	1	13	19	1	...
	Total ... ..	111	63	20,714	400	25	6	23	31	80	169	462
	Total for the Province ... ..	270	201	67,879	3,273	168	492	260	432	578	1,107	2,133



DIX I—contd.

districts of Bihar Province, during each month of the year 1938

					6			7			8	1
August.	September.	October.	November.	December.	Total.			Ratio of deaths per 1,000 of population.			Mean ratio per 1,000 of previous five years.	No.
					Male.	Female.	Total.	Male.	Female.	Total.		
159	82	98	66	32	286	267	553	0·3	0·3	0·3	0·7	1
377	118	17	36	5	769	731	1,500	0·6	0·6	0·6	1·5	2
256	259	103	20	24	509	497	1,006	0·5	0·5	0·5	0·7	3
792	459	218	122	61	1564	1,495	3,059	0·5	0·5	0·5	1·0	
91	177	164	98	14	362	336	698	0·2	0·2	0·2	0·1	4
476	598	553	275	99	1,349	1,376	2,725	1·2	1·3	1·3	0·9	5
392	169	150	176	91	725	520	1,245	0·5	0·3	0·4	0·5	6
...	190	...	993	773	1,328	1,282	2,610	0·8	0·8	0·8	0·5	7
959	1,134	867	1,542	977	3,764	3,514	7,278	0·7	0·6	0·7	0·5	
35	87	96	90	24	360	348	708	0·3	0·3	0·3	1·3	8
106	137	273	313	23	701	657	1,358	0·6	0·6	0·6	1·7	9
...	6	47	241	192	333	294	627	0·3	0·3	0·3	0·5	10
103	46	34	27	11	197	169	366	0·2	0·1	0·1	0·9	11
244	276	450	671	250	1,591	1,468	3,059	0·3	0·3	0·3	1·1	
107	28	32	5	...	288	211	509	0·3	0·2	0·3	1·0	12
28	7	...	...	...	83	75	158	0·1	0·1	0·1	0·3	13
86	107	55	38	...	2 8 4	214	498	0·7	0·5	0·6	0·9	14
30	19	4	8	4	91	64	155	0·09	0·07	0·08	0·7	15
...	...	...	...	...	29	5	34	0·06	0·06	0·03	0·2	16
251	161	91	51	4	785	569	1,354	0·2	0·2	0·2	0·6	
2,246	2,030	1,626	2,386	1,292	7,704	7,046	14,750	0·5	0·4	0·4	0·8	

## Annual Form No. VIII.—Deaths registered from small-pox in the

1	2	3	4	5							
No.	District.	Circles of Registration.		Villages.		January.	February.	March.	April.	May.	June.
		Number in each district.	Number from which deaths from small-pox were reported.	Number in each district.	Number from which deaths from small-pox were reported.						
PATNA DIVISION.											
1	Patna ... ..	20	17	2,315	178	55	27	29	98	66	36
2	Gaya ... ..	16	15	6,058	434	105	97	134	207	184	84
3	Shahabad ... ..	17	17	4,735	147	24	17	27	41	37	43
	Total ... ..	53	49	13,108	759	184	141	190	346	287	163
TIRHUT DIVISION.											
4	Saran ... ..	13	12	4,315	222	134	50	131	175	218	139
5	Champaran ... ..	11	10	2,548	123	18	21	22	102	236	122
6	Muzaffarpur ... ..	14	14	4,059	143	9	2	5	38	74	23
7	Darbhanga ... ..	14	12	3,135	119	29	14	14	65	65	20
	Total ... ..	52	48	14,047	607	190	87	172	380	593	304
BHAGALPUR DIVISION.											
8	Monghyr ... ..	13	13	2,610	165	10	19	32	149	73	35
9	Bhagalpur ... ..	14	14	3,080	53	...	15	14	18	79	43
10	Purnea ... ..	17	10	4,160	83	6	7	6	20	30	8
11	Santal Parganas ... ..	10	6	10,160	91	9	8	16	28	23	24
	Total ... ..	54	43	20,010	392	25	49	68	215	205	110
CHOTA NAGPUR DIVISION											
12	Hazaribagh ... ..	21	11	6,087	29	2	...	4	3	7	5
13	Ranchi ... ..	32	11	3,838	78	2	6	10	14	20	15
14	Palamau ... ..	10	9	3,134	172	47	49	74	72	71	48
15	Manbhum ... ..	35	26	4,642	115	49	32	49	88	79	31
16	Singhbhum ... ..	13	3	3,013	23	16	10	...	...	6	5
	Total ... ..	111	60	20,714	417	116	97	137	177	183	104
	Total for the Province ... ..	270	200	67,879	2,175	515	374	567	1,118	1,268	681



DIX I—contd.

districts of Bihar Province, during each month of the year 1928.

						6			7		8			9		1
July.	August.	September.	October.	November.	December.	Total.			Number of deaths among children.		Ratio of deaths per 1,000 of population.			Mean ratio per 1,000 of previous five years.	No.	
						Male.	Female.	Total.	Under 1 year.	One year and under 10 years.	Male.	Female.	Total.			
4	9	..	3	2	1	169	161	330	31	48	0·2	0·1	0·2	0·4	1	
65	26	30	10	15	22	479	500	979	66	187	0·4	0·4	0·4	1·0	2	
37	18	35	3	3	52	174	163	337	14	45	0·2	0·2	0·2	0·9	3	
106	53	65	16	20	75	822	824	1,646	111	280	0·3	0·3	0·3	0·8		
48	10	13	13	15	63	490	519	1,009	55	183	0·4	0·4	0·4	0·5	4	
71	9	18	1	11	4	324	311	635	61	64	0·3	0·3	0·3	0·4	5	
8	3	7	10	21	47	126	121	247	38	87	0·08	0·1	0·08	0·3	6	
24	7	18	12	269	...	263	274	537	...	...	0·1	0·1	0·1	0·3	7	
151	29	56	36	316	114	1,203	1,225	2,428	154	334	0·2	0·2	0·2	0·4		
22	3	9	2	5	16	214	161	375	26	44	0·2	0·1	0·1	0·9	8	
44	64	11	12	2	4	163	143	306	...	...	0·1	0·1	0·1	0·6	9	
1	2	...	...	7	57	77	67	144	...	...	0·07	0·06	0·06	1·5	10	
16	5	2	...	...	1	78	54	132	2	3	0·06	0·05	0·06	0·6	11	
83	74	22	14	14	78	532	425	957	28	47	0·1	0·1	0·1	0·9		
6	2	...	1	2	...	14	18	32	4	...	0·02	0·02	0·02	0·5	12	
2	4	4	...	...	4	44	37	81	...	...	0·05	0·04	0·05	0·2	13	
30	11	3	3	11	20	228	211	439	6	7	0·5	0·5	0·5	0·7	14	
17	7	1	...	1	..	203	151	354	8	12	0·2	0·2	0·2	0·3	15	
...	1	1	...	...	1	17	23	40	...	...	0·03	0·05	0·04	0·5	16	
55	25	9	4	14	25	506	440	946	18	19	0·1	0·1	0·1	0·4		
395	181	152	70	364	292	3,063	2,914	5,977	311	680	0·2	0·2	0·2	0·6		

## Annual Form No. IX.—Deaths registered from Fevers in the district

1	2	3	4	5									
No.	District.	Circles of Registration.		Villages.		January.	February.	March.	April.	May.	June.	July.	
		Number in each district.	Number from which deaths from fevers were reported.	Number in each district.	Number from which deaths from fevers were reported.								
PATNA DIVISION.													
1	Patna ... ..	20	20	2,315	2,294	1,764	1,227	1,123	2,305	2,092	2,574	2,470	
2	Gaya ... ..	16	16	6,058	5,950	3,873	2,907	3,484	3,765	4,667	4,743	6,053	
3	Shahabad ... ..	17	17	4,735	4,340	2,729	2,073	2,305	2,582	2,916	3,179	3,586	
	Total ... ..	53	53	13,108	12,584	8,366	6,207	6,912	8,652	9,675	10,496	12,109	
TIRHUT DIVISION.													
4	Saran ... ..	13	13	4,305	4,132	2,453	1,815	2,436	3,069	3,355	2,774	3,155	
5	Champaran ... ..	11	11	2,548	2,516	3,367	2,060	2,787	3,337	4,123	3,848	3,731	
6	Muzaffarpur ... ..	14	14	4,059	4,045	5,400	4,171	4,347	6,227	5,178	5,337	5,196	
7	Darbhangha ... ..	14	14	3,135	3,065	6,251	4,288	5,504	6,984	6,843	5,851	5,537	
	Total ... ..	52	52	14,047	13,758	17,471	12,334	15,074	19,617	19,499	17,810	17,619	
BHAGALPUR DIVISION.													
8	Monghyr .. ..	13	13	2,610	2,571	3,253	2,283	2,564	3,873	3,224	3,149	3,384	
9	Bhagalpur ... ..	14	14	3,080	2,856	4,299	3,617	3,688	3,914	3,551	3,357	3,199	
10	Purnea ... ..	17	17	4,160	4,031	4,043	3,492	4,029	4,540	4,355	3,142	2,998	
11	Santal Parganas ... ..	10	10	10,160	9,731	1,966	1,972	2,182	2,802	2,922	3,256	3,457	
	Total ... ..	54	54	20,010	19,189	13,561	11,364	12,463	15,129	14,052	12,904	13,038	
CHOTA NAGPUR DIVISION.													
12	Hazaribagh ... ..	21	21	6,087	5,293	2,399	1,725	1,977	2,497	2,685	2,100	3,074	
13	Ranchi ... ..	32	32	3,838	3,749	1,918	2,046	2,010	2,408	3,036	2,892	2,883	
14	Palamanu ... ..	10	10	3,134	3,073	1,627	1,230	1,461	1,608	1,772	1,497	1,764	
15	Manbhum ... ..	35	35	4,642	4,473	1,949	1,846	2,197	2,618	2,683	2,369	3,163	
16	Singhbhum ... ..	13	13	3,013	2,971	1,133	1,072	1,082	1,262	1,395	1,002	1,197	
	Total ... ..	111	111	20,714	19,559	9,026	7,919	8,727	10,393	11,571	9,360	12,081	
	Total for Province ... ..	270	270	67,879	65,090	48,424	37,824	43,176	53,791	54,797	50,570	54,847	



DIX I—contd.

of Bihar Province, during each month of the year 1938.

					6			7			8		N.
August.	September.	October.	November.	December.	Total.			Ratio of deaths per 1,000 of population.			Mean ratio per 1,000 of previous five years.		
					Male.	Female.	Total.	Male.	Female.	Total.			
2,590	2,401	2,094	3,160	2,234	13,131	12,903	26,034	13·7	14·5	14·1	12·2	1	
5,853	5,004	4,132	4,449	3,804	26,914	25,820	52,734	22·5	21·6	22·0	19·7	2	
4,276	3,714	3,331	3,025	3,011	18,291	18,436	36,727	18·3	18·5	18·4	16·5	3	
12,719	11,119	9,557	10,634	9,049	58,326	57,159	115,485	18·5	18·5	18·5	16·5		
2,809	3,314	2,953	2,938	2,484	18,211	15,344	33,555	14·9	12·1	13·4	11·6	4	
3,499	3,390	3,638	3,800	3,298	22,076	18,802	40,878	20·4	17·7	19·0	16·4	5	
5,057	4,993	5,948	6,816	6,993	34,778	30,885	65,663	24·1	20·6	22·3	19·9	6	
5,770	5,410	4,555	5,947	5,058	36,533	31,465	67,998	23·2	19·7	21·4	18·3	7	
17,135	17,107	17,094	19,501	17,833	111,598	96,496	208,094	21·0	17·8	19·4	16·8		
3,699	4,573	4,048	4,625	3,899	22,271	20,303	42,574	19·4	17·8	18·6	17·2	8	
4,099	3,831	4,099	5,506	5,067	25,665	22,562	48,227	22·7	20·4	21·5	19·9	9	
3,509	3,932	3,697	5,004	5,145	26,012	21,874	47,886	23·0	20·7	21·9	22·4	10	
3,622	3,346	2,825	2,760	3,038	18,150	15,998	34,148	17·6	15·6	16·6	16·0	11	
14,929	15,682	14,669	17,895	17,149	92,098	80,737	172,835	20·8	18·6	19·7	18·9		
2,963	2,689	2,266	2,433	2,159	15,112	13,855	28,967	20·1	18·1	19·1	17·6	12	
3,842	2,914	2,720	2,595	2,028	16,439	14,353	30,792	21·1	18·1	19·6	18·0	13	
1,620	1,538	1,356	1,665	1,392	9,765	8,765	18,530	23·8	21·4	22·6	21·6	14	
2,725	2,199	1,862	2,139	2,158	15,529	12,379	27,908	16·5	14·2	15·4	15·7	15	
1,243	925	913	1,074	1,047	7,310	6,035	13,345	15·5	13·1	14·3	13·7	16	
12,393	10,265	9,117	9,906	8,784	64,155	55,387	119,542	19·1	16·8	18·0	17·1		
57,176	54,173	50,437	57,936	52,815	326,187	289,779	615,966	20·0	18·0	19·0	17·4		

## Annual Form No. X.—Deaths registered from Dysentery and Diarrhœa in the

1	2	3	4	5										
No.	District.	Circles of Registration.		Villages.		January.	February.	March.	April.	May.	June.	July.	August.	
		Number in each district.	Number from which deaths from Dysentery and Diarrhoea were reported.	Number in each district.	Number from which deaths from Dysentery and Diarrhoea were reported.									
PATNA DIVISION.														
1	Patna ... ..	20	20	2,315	352	84	23	28	68	51	67	106	91	
2	Gaya ... ..	16	15	6,058	204	10	11	21	20	27	30	46	48	
3	Shahabad ... ..	17	8	4,735	35	1	2	3	3	9	4	3	6	
	Total ... ..	53	43	13,108	591	95	41	52	91	87	101	155	145	
TIRHUT DIVISION.														
4	Saran ... ..	13	12	4,805	197	35	16	22	25	24	17	30	18	
5	Champanan ... ..	11	7	2,548	13	...	...	...	1	4	3	1	3	
6	Muzaffarpur ... ..	14	14	4,059	80	7	5	13	10	30	10	12	6	
7	Darbhangā ... ..	14	10	3,135	78	17	7	9	10	12	13	14	4	
	Total ... ..	52	43	14,047	368	59	28	44	46	70	43	57	31	
BHAGALPUR DIVISION.														
8	Monghyr ... ..	13	12	2,610	65	10	20	4	4	17	7	228	14	
9	Bhagalpur ... ..	14	12	3,080	42	5	4	12	35	5	14	11	14	
10	Purnea ... ..	17	9	4,160	27	6	2	1	9	6	4	3	4	
11	Santal Parganas ... ..	10	8	10,160	96	4	4	5	7	14	18	22	10	
	Total ... ..	54	41	20,010	230	25	30	22	55	42	43	264	42	
CHOTA NAGPUR DIVISION.														
12	Hazaribagh ... ..	21	15	6,087	99	2	21	11	2	8	6	17	11	
13	Ranchi ... ..	32	30	3,838	643	29	20	50	45	55	99	229	251	
14	Palamau ... ..	10	5	3,134	5	...	1	1	...	1	...	1	...	
15	Manbhum ... ..	35	25	4,642	53	5	11	6	9	7	8	25	23	
16	Singbhum ... ..	13	9	3,013	23	4	8	7	10	6	4	6	15	
	Total ... ..	111	84	20,714	823	40	61	75	66	77	117	278	300	
	Total for the Province	270	211	67,879	2,012	219	160	193	258	276	304	754	518	



DIX I—contd.

districts of Bihar Province, during each month of the year 1938.

5				6			7			8	1
September.	October.	November.	December.	Total.			Ratio of deaths per 1,000 of population.			Mean ratio per 1,000 of previous five years.	No.
				Male.	Female.	Total.	Male.	Female.	Total.		
89	48	72	70	449	353	802	0.4	0.4	0.4	0.5	1
19	25	18	18	162	131	293	0.1	0.1	0.1	0.09	2
2	1	2	1	18	19	37	0.02	0.02	0.02	0.03	3
110	74	92	89	629	503	1,132	0.2	0.2	0.2	0.2	
8	27	14	25	159	102	261	0.1	0.1	0.1	0.1	4
1	1	1	3	13	5	18	0.01	0.005	0.03	0.01	5
11	23	6	14	85	62	147	0.05	0.04	0.04	0.04	6
11	10	27	19	104	49	153	0.06	0.03	0.04	0.07	7
31	61	48	61	361	218	579	0.07	0.04	0.05	0.06	
13	7	15	16	206	149	355	0.2	0.1	0.1	0.06	8
14	20	11	14	86	73	159	0.07	0.06	0.07	0.05	9
4	8	6	5	51	7	58	0.04	0.006	0.02	0.04	10
2	5	5	18	71	43	114	0.06	0.04	0.05	0.08	11
33	40	37	53	414	272	686	0.9	0.06	0.08	0.06	
9	10	11	1	64	45	109	0.08	0.06	0.07	0.04	12
103	57	46	24	591	417	1,008	0.7	0.5	0.6	0.6	13
4	...	...	1	3	6	9	0.007	0.01	0.01	0.03	14
7	8	10	1	76	44	120	0.08	0.05	0.06	0.09	15
7	1	8	7	52	31	83	0.1	0.1	0.1	0.05	16
130	76	75	34	786	543	1,329	0.1	0.2	0.2	0.2	
304	251	252	237	2,190	1,536	3,726	0.1	0.09	0.1	0.1	

## Annual Form No. XI.—Deaths registered from Respiratory diseases in the

1	2	3	4	5								
No.	District.	Circles of Registration.		Villages.		January.	February.	March.	April.	May.	June.	July.
		Number in each district.	Number from which deaths from Respiratory diseases were reported.	Number in each district.	Number from which deaths from Respiratory diseases were reported.							
PATNA DIVISION.												
1	Patna ... ..	20	20	2,315	415	120	89	61	114	70	97	59
2	Gaya ... ..	16	12	6,058	92	16	10	6	8	9	8	8
3	Shahabad ... ..	17	11	4,735	17	3	1	3	4	7	1	2
	Total ... ..	53	43	13,108	524	139	100	70	126	86	106	69
TIRHUT DIVISION.												
4	Saran ... ..	13	13	4,305	138	98	75	98	109	91	58	58
5	Champanan ... ..	11	5	2,548	11	4	1	2	...	...	...	1
6	Muzaffarpur ... ..	14	12	4,059	94	11	6	5	10	8	9	8
7	Darbhanga ... ..	14	13	3,135	31	6	10	5	8	1	3	12
	Total ... ..	52	43	14,047	274	119	92	110	127	100	70	79
BHAGALPUR DIVISION.												
8	Monghyr ... ..	13	10	2,610	31	8	12	8	6	9	2	2
9	Bhagalpur ... ..	14	12	3,080	33	3	3	9	10	5	6	3
10	Purnea ... ..	17	10	4,160	15	4	4	4	3	3	2	5
11	Santal Parganas ... ..	10	10	10,160	189	14	21	14	27	25	31	15
	Total ... ..	54	42	20,010	268	29	40	35	46	42	41	25
CHOTA NAGPUR DIVISION.												
12	Hazaribagh ... ..	21	11	6,087	17	4	1	1	5	3	6	13
13	Ranchi ... ..	32	24	3,838	33	5	3	3	7	13	11	8
14	Palamau ... ..	10	3	3,134	3	...	1	...	...	1	1	...
15	Manbhum ... ..	35	21	4,642	78	20	23	23	14	4	8	16
16	Singbhum ... ..	13	3	3,013	3	1	...	...	...	2	...	...
	Total ... ..	111	62	20,714	134	30	28	27	26	23	26	37
	Total for the Province ... ..	270	190	67,879	1,200	317	260	242	325	251	243	210



DIX I—contd.

districts of Bihar Province, during each month of the year 1938.

5					6			7			8	1
August.	September.	October.	November.	December.	Total.			Ratio of deaths per 1,000 of population.			Mean ratio per 1,000 of previous five years.	No
					Male.	Female.	Total.	Male.	Female.	Total.		
86	78	58	101	101	542	492	1,034	0·5	0·5	0·5	0·6	1
9	14	10	12	10	65	55	120	0·05	0·04	0·05	0·07	2
2	2	1	2	2	20	10	30	0·02	0·01	0·02	0·02	3
97	94	69	115	113	627	557	1,184	0·2	0·2	0·2	0·2	
57	89	38	56	106	536	397	933	0·4	0·3	0·3	0·3	4
4	1	...	1	1	7	8	15	0·2	0·2	0·2	0·007	5
12	5	11	2	11	47	51	98	0·03	0·03	0·03	0·03	6
4	8	9	5	6	52	25	77	0·03	0·01	0·02	0·02	7
77	103	58	64	124	642	481	1,123	0·1	0·09	0·1	0·08	
4	5	1	6	6	43	26	69	0·04	0·02	0·03	0·03	8
5	3	7	5	2	32	29	61	0·02	0·02	0·02	0·04	9
7	2	4	2	2	30	12	42	0·03	0·01	0·02	0·01	10
25	21	21	21	35	191	79	270	0·2	0·07	0·1	0·1	11
41	31	33	34	45	296	146	442	0·06	0·03	0·05	0·05	
5	3	4	1	4	36	14	50	0·04	0·02	0·03	0·04	12
8	2	7	2	1	51	19	70	0·06	0·02	0·04	0·04	13
1	...	...	...	...	3	1	4	0·007	0·002	0·005	0·01	14
14	7	14	6	12	104	57	161	0·1	0·06	0·08	0·1	15
3	...	...	...	...	5	1	6	0·01	0·002	0·006	0·03	16
31	12	25	9	17	199	92	291	0·06	0·03	0·04	0·05	
246	240	185	222	299	1,764	1,276	3,040	0·1	0·08	0·09	0·09	

## Annual Form No. XII.—Deaths registered from Plague in the

1	2	3	4	5								
No.	District.	Circles of Registration.		Villages.		January.	February.	March.	April.	May.	June.	July.
		Number in each district.	Number from which deaths from Plague were reported.	Number in each district.	Number from which deaths from Plague were reported.							
PATNA DIVISION.												
1	Patna ... ..	20	...	2,315	...	...	...	...	...	...	...	...
2	Gaya ... ..	16	...	6,058	...	...	...	...	...	...	...	...
3	Shahabad ... ..	17	...	4,735	...	...	...	...	...	...	...	...
	Total ... ..	53	...	13,108	...	...	...	...	...	...	...	...
TIRHUT DIVISION.												
4	Saran ... ..	13	7	4,305	82	159	213	368	198	23	1	18
5	Champanan ... ..	11	2	2,548	43	38	18	50	35	5	...	20
6	Muzaffarpur ... ..	14	5	4,059	42	55	111	153	114	21	11	5
7	Darbhangha ... ..	14	1	3,135	1	...	...	1	2	...	...	...
	Total ... ..	52	15	14,047	168	252	342	572	349	49	12	43
BHAGALPUR DIVISION.												
8	Monghyr ... ..	13	...	2,010	...	...	...	...	...	...	...	...
9	Bhagalpur ... ..	14	...	3,080	...	...	...	...	...	...	...	...
10	Purnea ... ..	17	...	4,160	...	...	...	...	...	...	...	...
11	Santal Parganas ... ..	10	...	10,160	...	...	...	...	...	...	...	...
	Total ... ..	54	...	20,010	...	...	...	...	...	...	...	...
CHOTA NAGPUR DIVISION.												
12	Hazaribagh ... ..	21	...	6,087	...	...	...	...	...	...	...	...
13	Ranchi ... ..	32	...	3,838	...	...	...	...	...	...	...	...
14	Palamau ... ..	10	...	3,134	...	...	...	...	...	...	...	...
15	Manbhum ... ..	35	...	4,642	...	...	...	...	...	...	...	...
16	Singhbhum ... ..	13	...	3,013	...	...	...	...	...	...	...	...
	Total ... ..	111	...	20,714	...	...	...	...	...	...	...	...
	Total for the Province ... ..	270	15	67,879	168	252	342	572	349	49	12	43



DIX I—concl'd.

districts of Bihar Province, during each month of the year 1938.

					6			7			8	1
August.	September.	October.	November.	December.	Total.			Ratio of deaths per 1,000 of population.			Mean ratio per 1,000 of previous five years.	No.
					Male.	Female.	Total.	Male.	Female.	Total.		
..	..	..	..	..	..	..	..	..	..	..	..	1
..	..	..	..	..	..	..	..	..	..	..	..	2
..	..	..	..	..	..	..	..	..	..	..	0.003	3
..	..	..	..	..	..	..	..	..	..	..	0.001	
59	32	4	21	77	460	693	1,173	0.4	0.5	0.4	0.4	4
7	..	..	3	5	66	115	181	0.06	0.1	0.08	0.05	5
5	3	3	..	..	194	287	481	0.1	0.2	0.1	0.2	6
..	..	..	..	..	2	1	3	0.001	0.0006	0.001	0.1	7
71	35	7	24	82	742	1,096	1,838	0.1	0.2	0.2	0.2	
..	..	..	..	..	..	..	..	..	..	..	0.06	8
..	..	..	..	..	..	..	..	..	..	..	0.0004	9
..	..	..	..	..	..	..	..	..	..	..	..	10
..	..	..	..	..	..	..	..	..	..	..	..	11
..	..	..	..	..	..	..	..	..	..	..	..	
..	..	..	..	..	..	..	..	..	..	..	..	12
..	..	..	..	..	..	..	..	..	..	..	..	13
..	..	..	..	..	..	..	..	..	..	..	..	14
..	..	..	..	..	..	..	..	..	..	..	..	15
..	..	..	..	..	..	..	..	..	..	..	..	16
..	..	..	..	..	..	..	..	..	..	..	..	
71	35	7	24	82	742	1,096	1,838	0.04	0.06	0.06	0.03	

## APPENDIX II.

## PROVINCIAL.

Statement showing details of registration in areas in which it is compulsory.

Compulsory registration area.	Population according to Census of 1931.	Probable number of births at the rate of 286 per 1,000 married women between the ages of 15 and 40.	Actual number of births registered during the year.	Probable birth-rate per mile (columns 2 and 3).	Registered birth-rate per mile during the year.	Number of deaths registered during the year.		Death-rate per mile.		Number of persons prosecuted under Act IV (B. C.) of 1873.	Number of persons convicted.
						Including deaths in dispensary.	Excluding deaths in dispensary.	Including deaths in dispensary.	Excluding deaths in dispensary.		
1	2	3	4	5	6	7	8	9	10	11	12
1. Patna City ...	159,690	Not available.	2,126	Not available.	13.3	1,741	696	10.9	4.3	...	...
2. Bihar ...	46,994		559		11.9	324	294	6.9	6.2	...	...
3. Dinapore Nizamat ...	24,221		167		6.9	89	46	3.7	1.9	...	...
4. Barh ...	9,750		227		23.3	103	56	10.6	5.7	...	...
5. Khagole ...	7,412		156		21.0	84	84	11.3	11.3	...	...
6. Gaya ...	88,005		2,627		29.3	3,487	3,175	39.6	36.1	...	...
7. Tikari ...	5,481		231		42.1	186	136	24.8	24.8	...	...
8. Daudnagar ...	11,699		381		32.5	218	209	18.6	17.9	...	...
9. Arrah ...	48,922		550		11.2	206	64	4.2	1.3	...	...
10. Buxar ...	13,449		334		24.7	164	119	12.2	8.8	...	...
11. Dumraon ...	14,421		245		17.0	40	...	2.7	...	...	...
12. Jagdispur ...	9,661		128		13.0	42	36	4.3	3.7	...	...
13. Sasaram ...	25,175		579		23.0	203	151	8.0	6.0	...	...
14. Bhabua ...	6,092		153		25.5	52	25	8.6	4.1	...	...
15. Chapra ...	47,448		1,293		27.2	903	723	19.0	15.2	...	...
16. Revelganj ...	8,812		349		39.6	155	155	17.5	17.5	...	...
17. Siwan ...	14,215		400		28.1	178	114	12.5	8.0	...	...
18. Bettiah ...	27,941		1,036		37.0	634	394	22.7	14.1	...	...
19. Motihari ...	17,545		286		16.3	218	26	12.4	1.5	...	...
20. Muzaffarpur ...	43,049		821		19.0	678	496	15.7	11.5	...	...
21. Sitamarhi ...	10,701		293		27.3	190	145	17.7	13.5	...	...
22. Hajipur ...	19,299		556		28.8	504	479	26.1	24.8	...	...
23. Lalganj ...	9,192		303		32.9	219	219	23.8	23.8	...	...
24. Darbhanga ...	60,676		1,728		28.4	1,370	1,005	22.5	16.5	...	...
25. Roserah ...	8,869		228		25.7	121	119	13.6	13.4	...	...
26. Samastipur ...	9,891		232		23.4	111	78	11.2	7.9	...	...
27. Madhubani ...	18,769		432		22.9	181	140	9.6	7.4	...	...
28. Monghyr ...	52,863		1,273		24.1	686	497	13.0	9.4	...	...
29. Jamalpur ...	30,346		1,014		33.4	479	439	15.8	14.4	...	...
30. Bhagalpur ...	83,847		1,017		12.1	987	733	11.7	8.7	...	...
31. Colgong ...	5,233		118		22.5	119	119	22.7	22.7	...	...
32. Purnea ...	15,474		316		20.4	343	162	22.2	10.5	...	...
33. Kishanganj ...	8,946		123		13.7	64	...	7.1	...	...	...
34. Katihar ...	15,864		156		9.8	61	4	3.8	0.2	...	...
35. Forbesganj ...	5,939		117		19.7	68	68	11.4	11.4	...	...
36. Sahibganj ...	15,883		118		7.4	43	9	2.0	0.6	...	...
37. Deoghar ...	14,217		35		2.4	39	...	2.7	...	...	...
38. Dumka ...	9,471		63		6.6	30	...	3.1	...	...	...
39. Madhupur ...	8,965		68		7.6	43	22	4.8	2.4	...	...
40. Hazaribagh ...	20,977		453		21.6	170	70	8.1	3.3	...	...
41. Chatra ...	8,758		305		34.8	152	141	17.3	16.1	...	...
42. Giridih ...	21,123		151		7.1	57	19	2.7	0.9	...	...
43. Ranchi ...	50,517		696		17.7	513	307	10.1	6.0	...	...
44. Lohardaga ...	7,577		185		24.4	68	64	8.9	8.4	...	...
45. Daltonganj ...	12,040		173		14.4	45	...	3.7	...	...	...
46. Purulia ...	25,974		489		18.4	271	108	10.3	4.1	...	...
47. Raghunathpur ...	7,139		226		31.6	98	98	13.7	13.7	...	...
48. Jhaldah ...	6,924		173		24.8	95	93	13.7	13.4	...	...
49. Dhanbad ...	16,856		483		29.5	286	164	17.4	10.0	...	...
50. Chaibasa ...	10,785		238		22.0	170	117	15.8	10.8	...	...
51. Chakradharpur ...	11,191		174		15.5	111	100	9.9	8.9	...	...
52. Jugsaslai ...	8,721		238		27.2	41	41	4.7	4.7	...	...
53. Jamshedpur ...	83,738		587		7.0	494	105	5.9	1.2	...	...
(a) Total	1,485,160		25,595		19.3	17,884	12,664	13.5	9.5	...	...

(a) Excluding cantonment population.



## APPENDIX III.

## JHARIA MINING AREA.

## STATISTICS OF EPIDEMIC DISEASES.

1938.

Month.	Total births.	Total deaths.	Influenza.		Cholera.		Small-pox.		Plague.	
			Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
1	2	3	4	5	6	7	8	9	10	11
January ...	157	91	328	...	...	...	17	...	...	...
February ...	106	121	758	...	...	...	22	1	...	...
March ...	157	123	625	1	...	...	52	5	...	...
April ...	156	103	435	...	...	...	58	2	...	...
May ...	150	98	469	...	...	...	14	2	...	...
June ...	126	119	658	1	...	...	...	...	...	...
July ...	168	125	717	1	5	1	1	...	...	...
August ...	178	132	903	5	8	2	...	...	...	...
September ...	168	122	895	...	2	1	1	...	...	...
October ...	171	107	754	1	2	...	...	...	...	...
November ...	190	101	369	1	1	1	...	...	...	...
December ...	168	78	271	1	1	...	12	...	...	...
Total ...	1,895	1,319	7,182	11	19	5	117	10	...	...
Ratio per mille ...	14.8	10.3	56.0	0.08	0.1	0.04	1.4	0.08	...	...

N.B.—The figures relate to the labour population only and the ratios are calculated accordingly.

## APPENDIX IV.

*Summary of the activities of the Public Health Circle of Public Works Department, relating to the sanitary improvements in urban and rural areas in Bihar during the calendar year 1938.*

*I. Projects.*—The following major projects were completed and submitted :—

	Rs.
(a) Improvement of water-supply to Central Jail at Buxar ..	40,368
(b) Improvement of water-supply to Central Jail and Reformatory School at Hazaribagh (since sanctioned) .. ..	6,371
(c) Provision of latrines and urinals for the new Civil Court Buildings at Patna (since sanctioned) .. ..	6,698
(d) Gaya drainage and sewerage (preliminary) .. ..	1,62,638
(e) Surface drainage for the plots of lands situated east of the new market and north of the Hardinge Road, Patna (preliminary estimate) .. .. ..	5,739
(f) Provision of bulk meters for the Patna-Bankipore water works (preliminary estimate) .. .. ..	18,372
(g) Bhagalpur waterworks .. .. ..	39,000
(h) Patna-Bankipore waterworks, Maidan headworks ..	81,796
Minor schemes to the total value of Government work ..	35,654
Deposit work .. .. ..	10,129

were prepared and submitted to authorities concerned during the year under review.

*II. Construction.*—The following major works were under progress :—

(a) Reorganization of water-supply scheme, Central Jail, Bhagalpur (work practically completed)—	
Estimated cost .. .. ..	25,853
Total expenditure to end of December, 1938 .. ..	24,788
(b) Patna University sewerage and sanitary installation (work practically completed)—	
Estimated cost .. .. ..	52,000
Total expenditure to end of December, 1938 .. ..	43,787
(c) Bihar College of Engineering Sewerage and sanitary installation (work practically completed)—	
Estimated cost .. .. ..	22,273
Total expenditure to end of December, 1938 .. ..	15,834
(d) Additional 5" tube-well with pumping plant (work practically completed).—	
Estimated cost .. .. ..	16,735
Total expenditure to end of December, 1938 .. ..	13,771
(e) Darbhanga Medical School Hospital water-supply, sanitary installation and drainage (work practically completed)—	
Estimated cost .. .. ..	1,59,705
Total expenditure to end of December, 1938 .. ..	1,40,625
(f) Patna main drainage and sewerage work is nearing completion and purification of sewage is in operation—	
Estimated cost .. .. ..	9,17,000
Total expenditure to end of December, 1938 .. ..	6,07,683



Rs.

(g) Patna main drainage and sewerage maintenance, being maintained on behalf of the Patna City Municipality—

Estimated cost	..	..	..	..	29,813
Expenditure to end of December, 1938	..	..	..	..	10,057

(h) Monghyr water-supply extension and rearrangement of distribution system due to new town-planning area (work practically completed)—

Estimated cost	..	..	..	..	42,865
Expenditure to end of December, 1938	..	..	..	..	39,195

(i) Bhagalpur water-supply reorganization scheme (work practically completed)—

Estimated cost	..	..	..	..	5,03,174
Expenditure to end of December, 1938	..	..	..	..	4,48,202

(j) Side pitching of the outfall drains at Motihari town (work completed)—

Estimated cost	..	..	..	..	5,451
Expenditure to end of December, 1938	..	..	..	..	2,351

Besides the above, a certain number of minor works (both Government and Deposit) with repair and maintenance were in progress.

The repair and maintenance of the Patna-Bankipore water-supply system for which an estimate amounting to Rs. 1,10,800 was sanctioned, was maintained efficiently during the year under review.

The total value of work carried out by this Circle during the calendar year was—

Rs.

Government work	..	..	..	..	1,99,272
Deposit work	..	..	..	..	3,08,407

The 28th March 1939.

H. WHIPP,  
Special Officer,  
I/C Public Health Engineering Department, Bihar.

*Table showing health services in Rural and Urban*

[illegible]



## DIX V.

areas of Bihar Province during the year 1938.

Urban areas.											
Municipalities.	Medical officers of Health.				Sanitary and Health inspectors.	Vaccinators.		Inspectors of vaccination.	School Medical Officers.	Other Health Staff.	
	Holding D. P. H.		Licentiates (L. P. H. S.)			Male.	Female.				
	Whole time.	Part time.	Whole time.	Part time.							
12	13	14	15	16	17	18	19	20	21	22	
Patna City ... ..	1	...	...	...	5	7	...	...	...	7	
Patna Administration Committee	...	1	...	...	3	1	...	...	...	...	
Bihar ... ..	...	...	...	...	1	1	...	...	...	2	
Dinapur Nizamat ... ..	...	...	...	...	1	1	...	...	...	2	
Dinapur Cantonment ... ..	1 R. A. M.C.	...	...	...	1	1	...	...	...	2	
Barh ... ..	...	...	...	...	1	1	...	...	...	...	
Khagole ... ..	...	...	...	...	1	1	...	...	...	...	
Gaya ... ..	1	...	...	...	3	2	...	...	...	...	
Tikari ... ..	...	...	...	...	1	1	...	...	...	...	
Daudnagar ... ..	...	...	...	...	...	1	...	...	...	...	
Arrah ... ..	...	...	...	...	2	1	...	...	...	...	
Buxar ... ..	...	...	...	...	1	1	...	...	...	...	
Dumraon... ..	...	...	...	...	1	1	...	...	...	...	
Jagdishpur ... ..	...	...	...	...	...	1	...	...	...	...	
Sasaram ... ..	...	...	...	...	1	1	...	...	...	...	
Bhabua ... ..	...	...	...	...	1	1	...	...	...	...	
...	...	...	...	...	...	...	...	...	...	...	
Chapra ... ..	...	...	...	...	1	3	...	...	...	...	
Revelganj ... ..	...	...	...	...	...	1	...	...	...	...	
Siwan ... ..	...	...	...	...	...	1	...	...	...	...	
Bettiah ... ..	...	...	1	...	1	1	...	...	...	...	
Motihari ... ..	...	...	...	...	1	1	...	...	...	...	
Muzaffarpur ... ..	1	...	...	...	3	2	...	...	...	...	
Sitamarhi ... ..	...	...	...	...	1	1	...	...	...	...	
Hajipur ... ..	...	...	...	...	1	1	...	...	...	...	
Lalganj ... ..	...	...	...	...	...	1	...	...	...	...	
Darbhanga ... ..	1	...	...	...	1	2	...	...	...	...	
Roserah ... ..	...	...	...	...	1	1	...	...	...	...	
Samastipur ... ..	...	...	...	...	1	1	...	...	...	...	
Madhubani ... ..	...	...	...	...	1	1	...	...	...	...	
...	...	...	...	...	...	...	...	...	...	...	

*Table showing health services in Rural and Urban.*

Rural areas.												
District Boards.			Medical Officers of Health.				Epidemic staff.	Sanitary and Health Inspectors.	Vaccinators.		School Medical Officers.	Other Health staff.
			Holding D. P. H.		Licentiates L. M. P.				Male.	Female.		
			Whole-time.	Part-time.	Whole-time.	Part-time.						
1	2	3	4	5	6	7	8	9	10	11		
Monghyr	...	...	...	...	20	3	9	...	...	58		
Bhagalpur	...	...	1	...	88	4	65	...	...	2		
Purnea	...	...	1	...	38	17	106	...	...	1		
Santal Parganas	...	...	...	...	1	...	16	1	...	...		
Bhagalpur Division	...	...	...	...	...	...	...	...	2	...		
Hazaribagh	...	...	...	...	3	1	50	...	...	14		
Ranchi	...	...	...	...	...	...	9	...	...	5		
Palamau	...	...	...	...	3	2	30	...	...	...		
Manbhum	...	...	1	...	2	3	41	...	...	...		
Singhbhum	...	...	...	...	...	...	2	...	...	...		
Chota Nagpur Division	...	...	...	...	...	...	...	...	2	...		



DIX V—concl'd.

*areas of Bihar Province during the year 1938—concl'd.*

[illegible]

## APPENDIX VI.

Table showing Maternity and Child Welfare Centres, health visitors and trained midwives in rural and urban areas in Bihar during the year 1938.

District.	Maternity and Child welfare Centres maintained by—						Trained visitors in Child Welfare and Maternity Centres.		Trained mid-wives employed in hospitals and dispensa-ries.		Trained dais employed in hospitals and dispensaries.		Remarks.
	Government.		Local and muni- cipal bodies.		Other agencies.		Rural.	Urban.	Rural.	Urban.	Rural.	Urban.	
	Enral.	Urban.	Rural.	Urban.	Enral.	Urban.							
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Patna ...	...	6(a)	...	1(a)	...	3	...	4(b)	4	13	...	1	(a) Midwife r y circles. (b) Incln d i n g one Maternity Snp e r v i s o r entertained by Government.
Gaya ...	...	...	...	...	...	...	...	...	11	1	...	5	
Shahabad ...	...	...	...	...	...	...	...	...	3	3	12	...	
Muzaffarpur ...	...	...	...	...	...	1	...	1	1	4	1	2	
Darbhanga ...	...	...	...	1(a)	...	...	...	...	...	1	...	1	
Saran ...	...	...	...	1	...	...	...	...	...	...	5	4	
Champaran ...	...	...	...	...	...	...	...	...	2	7	...	...	
Monghyr ...	...	...	...	...	...	1	...	1	1	...	...	2	
Purnea ...	...	...	...	...	...	...	...	...	1	2	...	1	
Bhagalpur ...	...	...	...	...	...	...	...	...	2	1	3	...	
Santal Parganas ...	...	...	...	...	...	...	...	...	3	2	...	...	
Banchi ...	...	...	...	1(a)	...	1	...	1	3	1	...	12	
Manbhum ...	...	...	...	1(a)	4	...	...	...	...	2	5	5	
Singhbhum ...	...	...	...	2	...	...	...	...	...	4	...	16	
Palamau ...	...	...	...	...	...	...	...	...	1	1	...	1...	
Hazaribagh ...	...	...	...	...	...	...	...	...	2	4	...	...	
Total ...	...	6	...	7	4	6	...	7	34	46	26	49	



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STATEMENTS.

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Number.	District.	Population of district according to the census of 1931.	Average number of vaccinators employed throughout the season.	Total number of persons vaccinated.			Average number of persons vaccinated by each vaccinator.	Primary Total.	
				Male.	Female.	Total.			
1	2	3	4	5	6	7	8	9	
Patna Division.									
1	Patna ...	District excluding towns ...	{	94 12	34,831	30,447	65,278	694	60,008
		Towns ...			12,070	5,795	17,865	1,499	7,172
2	Gaya ...	District excluding towns ...	{	95 4	51,496	40,180	91,676	965	76,128
		Towns ...			1,985	1,354	3,339	835	2,295
3	Shahabad ...	District excluding towns ...	{	119 7	37,925	30,752	68,681	577	66,327
		Towns ...			2,870	1,930	4,800	686	3,342
	Total of Patna Division	District excluding towns ...	{	308 23	124,256	101,379	225,635	732	202,463
		Towns ...			16,925	9,079	26,004	1,130	12,809
Tirhut Division.									
4	Saran ...	District excluding towns ...	{	88 5	50,203	41,234	91,437	1,039	83,208
		Towns ...			2,679	1,826	4,505	901	2,536
5	Champaran ...	District excluding towns ...	{	79 2	60,084	41,155	101,239	1,281	68,557
		Towns ...			1,762	826	2,588	1,294	1,327
6	Muzaffarpur ...	District excluding towns ...	{	46 7	97,239	70,848	168,085	3,654	101,939
		Towns ...			27,336	12,819	41,155	5,879	3,583
7	Darbhanga ...	District excluding towns ...	{	102 5	67,803	55,168	122,971	1,205	103,028
		Towns ...			2,190	1,707	3,897	779	2,521
	Total of Tirhut Division	District excluding towns ...	{	315 19	275,329	208,403	483,732	1,535	356,732
		Towns ...			35,967	18,178	53,145	2,744	9,867
Bhagalpur Division.									
8	Monghyr ...	District excluding towns ...	{	64 3	63,819	38,933	102,752	1,605	60,107
		Towns ...			7,559	3,096	10,655	3,552	2,312
9	Bhagalpur ...	District excluding towns ...	{	38 4	70,706	43,800	114,500	3,013	58,690
		Towns ...			3,661	1,669	5,340	1,335	2,255
10	Purnea ..	District excluding towns ...	{	76 4	47,343	32,007	79,350	1,044	59,239
		Towns ...			1,782	959	2,741	654	1,332
11	Santal Parganas ...	District excluding towns ...	{	74 4	34,238	27,402	61,640	833	51,144
		Towns ...			2,392	1,641	3,933	983	1,139
	Total of Bhagalpur Division.	District excluding towns ...	{	252 15	216,100	142,142	358,242	1,421	229,170
		Towns ...			15,294	7,375	22,669	1,511	7,008



*districts of Bihar during the year 1938-39.*

Vaccination.				Re-vaccination.			Percentage of successful cases in which the results were known.		Persons successfully vaccinated per 1,000 of population.	Total cost of Vaccination Department.	Number of all successful vaccinations and re-vaccinations performed by the vaccination staff only.	Average cost of each successful case performed by the vaccination staff.
Successful.				Total.	Successful.	Unknown.	Primary.	Re-vaccination.				
Under one year.	One year and under six years.	Total of all ages.	Unknown.									
10	11	12	13	14	15	16	17	18	19	20	21	22
12,413	46,633	59,823	149	5,270	1,546	2,584	99·94	57·56	} 39·68	3,348 11 6	73,261	0 0 10
1,254	4,619	6,515	382	10,693	3,668	3,267	95·67	49·20				
15,475	56,961	73,810	2,130	15,548	4,023	9,889	99·73	71·09	} 34·28	1,552 4 2	81,677	0 0 3
1,388	990	1,688	14	1,044	378	88	74·00	39·54				
11,202	44,149	65,833	349	2,354	1,276	411	99·78	65·67	} 36·50	594 0 0	72,767	0 0 1
1,307	1,880	3,298	44	1,458	869	569	100·00	100·00				
39,090	147,743	199,457	2,628	23,172	6,845	12,884	99·81	66·53	} 36·59	6,094 15 9	227,903	0 0 5
3,819	7,489	11,501	420	13,195	4,935	3,894	92·69	53·06				
13,574	63,018	81,402	1,256	8,229	3,207	1,797	99·33	49·86	} 35·60	1,263 13 9	88,524	0 0 3
792	1,536	2,415	106	1,969	707	745	99·38	57·76				
14,310	52,206	67,777	414	32,682	13,841	8,811	99·46	58·00	} 39·14	1,275 19 6	83,981	0 3 0
432	386	1,196	3	1,361	611	269	97·71	56·00				
16,584	84,787	101,587	173	66,146	21,211	27,853	99·82	55·31	} 44·60	1,371 0 0	131,189	0 0 2
580	2,903	3,544	18	37,572	4,414	28,278	99·41	47·49				
16,105	86,603	102,938	...	19,043	9,819	4,287	99·91	63·16	} 36·68	1,118 14 6	116,130	0 0 2
247	2,260	2,514	1	1,376	453	354	99·76	44·32				
59,573	286,614	353,704	1,843	127,000	48,148	43,784	99·66	57·15	} 39·00	5,030 6 9	419,824	0 0 2
2,051	7,085	9,869	138	42,278	6,185	29,646	99·28	48·96				
11,723	47,890	59,835	209	42,645	742	40,771	99·89	39·60	} 27·78	5,373 4 6	63,536	0 1 4
963	1,329	2,304	2	8,343	655	5,577	99·74	23·68				
27,834	29,905	57,977	420	55,810	23,049	25,060	99·49	74·95	} 38·41	4,227 11 9	85,946	0 0 9
542	1,641	2,206	19	3,115	907	945	100·00	41·78				
17,569	26,690	55,974	1,883	20,121	2,844	15,587	97·60	62·72	} 27·81	4,248 7 0	60,815	0 0 10
305	892	1,199	31	1,409	283	612	93·16	35·51				
25,903	24,135	50,280	659	10,496	1,263	8,295	99·59	57·38	} 26·68	9,128 9 0	55,150	0 2 8
497	558	1,063	57	2,794	846	752	98·24	41·43				
83,029	138,621	224,066	3,171	129,072	27,898	69,713	99·14	70·88	} 30·30	22,978 0 3	265,447	0 1 4
2,367	4,420	6,772	109	15,661	2,691	7,886	98·17	34·60				

## STATEMENT NO. I.—Showing particulars of Vaccination in the

Number.	District.	Population of district according to the census of 1931.	Average number of vaccinators employed throughout the season.	Total number of persons vaccinated.			Average number of persons vaccinated by each vaccinator.	Primary
				Male.	Female.	Total.		Total.
1	2	3	4	5	6	7	8	9
<i>Chota Nagpur Division.</i>								
12	Hasaribagh ...	{ District excluding towns ... } ... { Towns ... }	{ 44 3 }	23,156 1,415	21,103 845	44,259 2,260	1,006 753	40,048 1,366
13	Ranchi ...	{ District excluding towns ... } ... { Towns ... }	{ 47 5 }	29,278 2,487	25,395 1,278	54,673 3,763	1,163 752	36,263 1,662
14	Palamau ...	{ District excluding towns ... } ... { Towns ... }	{ 31 1 }	20,068 630	12,316 555	32,384 1,185	1,044 1,185	18,131 269
15	Manbhum ...	{ District excluding towns ... } ... { Towns ... }	{ 73 5 }	48,596 5,654	34,819 2,437	83,415 8,091	1,142 1,618	48,045 1,636
16	Singhbhum ...	{ District excluding towns ... } ... { Towns ... }	{ 28 9 }	13,752 26,353	11,117 14,356	24,869 40,714	888 4,524	20,830 5,427
Total of Chota Nagpur Division.		{ District excluding towns ... } ... { Towns ... }	{ 223 28 }	134,850 36,544	104,750 19,469	239,600 56,013	1,074 2,435	163,316 10,360
Total of Vaccine Department.		{ District excluding towns ... } ... { Towns ... } ... { Total ... }	{ 1,098 80 1,178 }	750,535 102,730 853,265	556,674 54,101 610,775	1,307,209 156,831 1,464,040	1,190 1,960 1,243	951,681 40,044 991,725
Jails ...		...	...	25,732	664	26,396	...	523
Cantonments ...		...	...	658	312	870	...	513
Total of dispensary staff		...	...	...	...	...	...	...
Total of private medical practitioners		...	...	...	...	...	...	...
Total of Railway Dispensaries		...	...	780	286	1,066	...	191
Railway Collieries and Mines		...	...	3,465	2,033	5,498	...	1,698
Cooly Depots ...		...	...	1,799	1,095	2,894	...	146
Grand Total		...	...	885,699	615,065	1,500,764	...	994,795



Districts of Bihar during the year 1938-39—concl'd.

Vaccination.				Re-vaccination.			Percentage of successful cases in which the results were known.		Persons successfully vaccinated per 1,000 of population.	Total costs of Vaccination Department.	Number of all successful vaccinations and re-vaccinations performed by the vaccination staff only.	Average cost of each successful case performed by the vaccination staff.
Successful.				Total.	Successful.	Unknown.	Primary.	Re-vaccination.				
Under one year.	One year and under six years.	Total of all ages.	Unknown.									
10	11	12	13	14	15	16	17	18	19	20	21	22
										Rs. a. p.		Rs. a. p.
18,199	21,551	40,027	5	4,211	2,169	1,285	99·96	74·13	31·27	4,210 8 3	45,369	0 1 6
564	792	1,356	6	894	255	416	99·70	53·34				
30,656	5,559	36,233	4	18,411	10,737	2,886	99·93	69·16	32·15	6,055 5 0	50,389	0 1 11
1,163	489	1,656	6	2,101	1,475	245	100·00	79·47				
8,971	7,041	17,610	416	14,253	7,014	3,743	99·40	68·73	31·27	3,985 5 9	25,604	0 2 6
129	113	266	1	916	549	138	99·25	70·56				
13,266	33,246	47,114	667	35,370	17,894	7,702	99·44	66·47	39·02	3,855 0 0	70,668	0 0 10
470	1,061	1,588	27	6,455	3,359	2,556	98·07	86·15				
13,282	6,629	20,044	426	4,039	1,708	1,725	100·00	73·38	35·44	3,210 13 9	32,952	0 1 7
2,877	2,192	5,231	83	35,287	4,328	3,872	97·88	13·77				
84,374	74,028	161,028	1,518	76,284	39,522	17,341	99·52	67·05	33·94	21,317 0 9	225,482	0 1 6
5,203	4,647	10,087	123	45,653	9,966	7,227	98·63	25·93				
268,066	647,003	938,255	9,160	355,528	122,413	162,686	99·55	63·48	35·17	55,420 7 6	1,138,658	0 0 9
13,410	23,641	38,039	780	116,767	23,777	48,653	96·88	34·90				
279,476	670,644	976,394	9,940	472,315	146,190	211,339	99·44	56·01				
9	20	348	157	25,873	11,740	4,077	95·10	53·86	...	...	...	...
199	139	412	90	358	112	114	97·62	45·16	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...
85	69	191	...	875	181	481	100·00	45·94	...	...	...	...
473	945	1,489	149	2,800	1,681	1,254	96·19	66·02	...	...	...	...
6	11	20	126	2,748	...	2,737	100·00	...	...	...	...	...
280,248	671,828	978,754	10,462	505,969	159,904	220,002	99·43	55·92	...	...	...	...

## SUMMARY.

	Total number of persons vaccinated.		Total number of operations performed.		Percentage of successful cases in which the results were known.		Average number of persons vaccinated by each vaccinator.		Number of children successfully vaccinated.		Ratio of successful vaccinations per 1,000 of population.	Total cost of Vaccination Department.	Average cost of each successful case.		
	Primary.	Revaccination.	Primary.	Revaccination.	Primary.	Revaccination.	Vaccinators employed.	Persons vaccinated by each vaccinator.	Under one year.	One year and under 6 years.					
1	2	3	4	5	6	7	8	9	10	11	12	13	14		
												Rs. a. p.	Rs. a. p.		
BY SPECIAL STAFF.															
Statement (I)	...	...	991,725	472,315	991,725	472,315	98.44	56.01	1,178	1,243	279,476	670,644	35.17	55,420 7 6	0 0 2
BY OTHER AGENCIES.															
Collieries and Mines, and Railway Dispensaries, Railways Cooly Depôts, Jails and Cantonments.			3,070	33,654	3,070	33,654	96.54	54.87	...	...	772	1,184			
Total	...	...	994,795	505,969	994,795	505,969	99.43	55.92	1,178	1,243	280,248	671,828	35.17	55,420 7 6	0 0 2



COMPARATIVE STATEMENT NO. II.—Showing the percentage of persons primarily vaccinated to the total number of vaccinations performed in the Province of Bihar in each of the undermentioned official years.

Establishments.	Years.									
	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.	1937-38.	1938-39.
1	2	3	4	5	6	7	8	9	10	11
Government staff ... ..	7.36	9.56	9.99	...	4.02	5.22	17.3	...	11.94	15.42
Dispensaries ... ..	14.75	9.45	75.00	14.06	58.56	24.94	48.21	24.44	...	...
Municipal ... ..	71.71	64.03	67.13	30.88	29.00	33.07	22.57	30.63	30.62	25.22
District Board ... ..	67.12	70.70	64.30	38.61	17.94	42.69	61.90	66.92	54.49	58.07
Licensed vaccinators ... ..	97.59	92.75	97.29	90.97	84.19	70.93	...	...	90.83	82.95
Railways and collieries ... ..	35.25	34.23	28.78	21.47	9.04	5.97	12.12	39.15	15.19	28.78
Jails ... ..	1.34	1.11	0.78	2.20	0.89	1.33	4.86	3.23	1.03	1.82
Cooly Depôts ... ..	0.51	0.45	1.42	7.29	5.07	3.09	11.17	24.96	13.86	5.04
Cantonments ... ..	93.08	69.21	94.03	53.81	73.78	60.81	30.06	91.62	63.96	58.8

## STATEMENT NO. III.—Showing particulars of vaccinations

District.	Total number of persons vaccinated.		Total number inspected--								Percentage of	
			By Assistant Directors of Public Health or Superintendent of Vaccination.				By Native Superintendents or other Inspecting Officers.				By Assistant Director or Superintendent	
			Assistant Directors of Public Health.		Superintendent of vaccination.		District Inspectors and Health Inspectors.		Sub-Inspectors.		Assistant Directors of Public Health.	
	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.
1	2	3	4	5	6	7	8	9	10	11	12	13
Patna ...	67,865	18,680	535	1,022	1,685	112	10,898	...	...	...	0.78	5.47
Gaya ...	78,423	18,737	1,578	1,523	5,386	2,277	7,008	2,266	...	...	2.01	8.13
Shahabad ...	69,826	5,168	2,735	1,004	5,249	35	8,572	204	...	..	3.92	19.43
Saran ...	85,744	12,150	1,317	752	1,996	...	10,651	...	...	...	1.63	6.19
Champaran ...	69,784	35,552	...	...	5,606	1,509	15,589	2,377	...	...	...	...
Muzaffarpur ...	105,522	104,993	2,701	1,956	6,740	36	63,837	4,724	..	...	2.56	1.88
Darbhanga ...	105,801	23,064	822	705	3,195	238	38,682	262	...	...	0.78	3.06
Monghyr ...	62,419	50,988	342	28	347	...	8,472	217	22,562	99	0.55	0.05
Bhagalpur ...	60,915	63,623	768	1,082	3,287	...	8,439	...	...	...	1.26	1.70
Purnea ...	60,561	23,173	1,212	1,510	3,020	76	18,893	2,126	...	...	2.00	6.51
Santal Parganas ...	52,406	18,484	...	...	2,156	...	3,925	31	16,022	304	...	...
Hazaribagh ...	42,425	7,948	3,473	...	372	...	1,809	2	5,895	37	8.20	...
Ranchi ...	37,925	21,047	1,447	...	111	12	4,188	...	15,742	35	3.81	...
Palamau ...	18,402	16,311	...	...	415	28	1,344	45	2,598	115	...	...
Maubhum ...	49,681	43,715	937	...	2,020	...	4,597	1,842	...	...	1.88	...
Singbhum ...	27,096	42,236	444	...	660	...	2,867	290	3,662	427	1.64	...
TOTAL ...	994,795	505,969	18,316	9,582	42,245	4,323	209,271	14,386	66,481	1,107	1.84	1.89



verified by Inspecting Officers during the year 1938-39.

Inspection to total number vaccinated.						Percentage of cases found successful to total number inspected.										Percentage of successful case reported by vaccinator	
Inspectors of Public Health of Vaccination.		By Native Superintendents or other Inspecting Officers.				By Assistant Directors of Public Health or Superintendent of Vaccination.				By Native Superintendents or other Inspecting Officers.							
Superintendent of Vaccination.		District Inspectors and Health Inspectors.		Sub-Inspectors.		Assistant Directors of Public Health.		Superintendent of Vaccination.		District Inspectors and Health Inspectors.		Sub-Inspectors.					
Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.				
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29		
2'48	0'60	15'32	...	...	...	94'50	...	94'60	10'70	98'11	...	...	...	98'40	34'50		
6'80	12'16	8'93	12'09	...	...	94'40	...	97'51	100'00	90'51	...	...	...	87'22	92'21		
7'51	0'67	12'27	3'94	...	...	96'40	...	14'42	...	25'52	7'35	...	...	98'57	24'34		
2'33	...	12'42	...	...	...	97'87	75'45	91'33	...	97'00	...	...	...	97'00	38'00		
8'03	4'24	22'34	8'68	...	...	...	...	100'00	36'84	98'03	70'74	...	...	97'47	44'89		
6'29	0'03	60'49	4'50	...	...	99'07	93'00	99'97	80'55	99'73	49'94	...	...	99'60	32'06		
3'02	1'03	36'56	1'13	...	...	99'63	88'65	99'62	48'32	99'92	43'89	...	...	99'92	41'27		
0'55	...	13'57	0'42	36'14	0'19	100'00	100'00	100'00	...	99'77	25'34	99'87	40'40	99'55	2'73		
5'39	...	13'85	...	...	...	97'00	95'50	99'84	...	98'73	...	...	...	98'78	41'29		
4'98	0'32	31'19	9'17	...	...	93'98	82'38	90'00	26'31	86'04	21'02	...	...	94'40	15'71		
4'10	...	7'43	0'16	30'57	2'13	...	...	99'54	...	96'64	36'70	98'02	31'47	98'31	12'03		
0'88	...	4'26	0'02	13'89	0'48	98'47	...	97'58	...	97'07	0'50	99'23	18'91	99'65	45'15		
0'29	0'05	11'04	...	41'59	0'16	99'51	...	98'00	66'00	99'74	...	99'65	100'00	99'93	73'47		
2'26	0'17	7'30	0'27	14'12	1'71	...	...	97'83	85'71	98'59	51'11	97'11	55'65	97'15	47'36		
4'06	...	9'25	4'21	...	...	99'47	...	100'00	...	93'08	58'41	...	...	99'99	60'05		
2'43	...	10'57	0'68	13'52	1'01	93'02	...	98'78	...	97'90	100'00	98'55	65'34	97'98	83'30		
4'24	0'85	21'03	2'84	6'68	0'22	97'46	55'49	86'51	57'48	92'98	40'62	75'52	38'39	97'70	43'02		

STATEMENT NO. IV.—Showing side by side the ratios per mille of population of  
the ten years

District.	1929-30.		1930-31.		1931-32.		1932-33.	
	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.
1	2	3	4	5	6	7	8	9
Patna ...	0.40	28.34	0.23	25.86	0.30	26.19	0.68	41.13
Gaya ...	0.27	30.24	0.56	30.79	0.29	25.96	1.15	41.84
Shahabad ...	0.16	23.68	0.32	23.65	0.53	25.31	1.20	29.36
Saran ...	0.19	41.23	0.17	33.68	0.34	32.43	1.29	39.63
Champaran ...	0.10	24.51	0.06	20.98	0.12	20.44	0.85	27.41
Muzaffarpur ...	0.25	36.18	0.06	34.63	0.06	31.32	0.37	37.23
Darbhanga ...	0.12	37.63	0.18	35.54	0.17	32.47	0.44	37.89
Monghyr ...	0.45	35.86	0.42	30.35	0.16	28.85	0.57	32.96
Bhagalpur ...	0.16	35.17	0.08	34.53	0.07	34.15	0.41	37.20
Purnea ...	0.18	22.20	0.08	21.38	0.05	19.67	0.24	24.55
Santal Parganas ...	0.20	31.32	0.36	34.28	0.25	30.05	0.27	33.04
Hazaribagh ...	0.15	35.92	0.13	36.81	0.10	33.96	0.07	34.05
Ranchi ...	0.08	40.80	0.04	55.24	0.05	35.04	0.46	49.73
Palamau ...	0.95	30.67	0.43	33.58	0.23	37.35	0.31	23.96
Manbhum ...	0.05	35.79	0.13	38.93	0.05	30.53	0.02	32.57
Singhbhum ...	0.11	29.46	0.27	35.62	0.14	25.28	...	22.71
Total ...	0.21	32.80	0.21	32.20	0.18	28.99	0.57	34.67



*deaths from small-pox and the ratios of successful vaccinations per mille of population during ending 1938-39.*

1933-34.		1934-35.		1935-36.		1936-37.		1937-38.		1938-39.	
Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.	Ratio of deaths from small-pox.	Ratio of successful vaccination per mille of population.
10	11	12	13	14	15	16	17	18	19	20	21
0.56	35.65	0.24	41.63	0.37	52.04	0.42	40.82	0.25	42.01	0.13	39.68
1.96	37.20	0.58	30.12	0.57	35.75	0.69	34.18	0.45	33.41	0.31	34.28
1.12	26.07	0.39	20.97	1.34	29.97	1.08	34.34	0.27	31.62	0.27	36.50
1.18	47.99	0.14	23.31	0.19	28.32	0.48	33.77	0.41	34.12	0.35	35.60
1.06	31.13	0.20	32.33	0.29	37.99	0.11	33.61	0.18	35.97	0.30	39.14
0.77	49.18	0.15	50.36	0.17	47.32	0.09	43.76	0.03	39.76	0.11	44.60
0.45	34.29	0.26	41.98	0.34	41.93	0.24	36.99	0.03	35.85	0.17	36.68
1.33	31.44	0.70	30.28	1.03	28.53	0.79	26.06	0.19	27.93	0.23	27.78
1.06	47.24	0.51	47.09	0.91	61.72	0.48	50.30	0.14	38.46	0.18	38.41
1.44	36.84	2.55	41.36	2.16	38.87	1.43	29.05	0.11	28.85	0.07	27.81
0.33	30.22	0.57	28.19	0.74	27.03	1.09	24.25	0.22	25.41	0.06	26.88
0.59	38.83	0.81	34.12	0.79	31.71	0.27	31.51	0.04	29.51	0.03	31.27
0.41	36.95	0.10	34.07	0.03	30.94	0.05	31.32	0.03	30.93	0.05	32.15
0.51	28.68	0.54	33.07	0.72	31.87	0.89	32.72	0.93	47.25	0.49	31.27
0.16	35.58	0.18	35.82	0.41	44.66	0.53	41.52	0.32	26.84	0.17	39.02
0.39	37.41	0.59	35.29	0.62	58.38	0.80	38.50	0.13	34.19	0.02	35.44
0.89	37.24	0.52	35.57	0.65	39.23	0.56	35.53	0.21	33.68	0.18	35.17

STATEMENT NO. V.—Showing the protection afforded to infants in each town in the Province of Bihar during the year 1938-39.

District.	Town.	Number of births during the year ending 31st March 1939.	Number of deaths amongst infants under one year during the year ending 31st March 1939.	Number of successful vaccinations amongst infants under one year during the year ending 31st March 1939.	Date of extension of Vaccination Act to town.
1	2	3	4	5	6
Patna	Patna ...	2,576	336	843	1st October 1884.
	Bihar ...	575	84	293	1st April 1887.
	Dinapur ...	587	220	241	28th January 1891.
	Barh ...	204	8	57	1st April 1887.
	Khagole ...	158	8	49	12th July 1910.
	Total ...	4,100	656	1,483	
Gaya	Gaya ...	2,482	775	988	1st January 1883.
	Tikari ...	228	33	80	3rd January 1891.
	Daudnagar ...	388	54	220	Ditto.
	Total ...	3,098	862	1,288	
Shahabad	Arrah ...	555	39	499	20th July 1885.
	Buxar ...	324	31	99	1st April 1887.
	Dumraon ...	254	8	61	Ditto.
	Jagadispur ...	180	1	24	20th December 1890.
	Sassaram ...	572	35	578	1st April 1887.
	Bhabhua ...	160	14	46	Ditto.
	Total ...	1,995	128	1,307	
	Total of Patna Division.	9,193	1,646	4,078	
Saran	Chapra ...	1,310	136	395	1st April 1887.
	Revelganj ...	611	35	338	12th December 1890.
	Siwan ...	415	33	159	1st April 1887.
	Total ...	2,336	204	892	
Champaran	Motihari ...	287	33	83	1st April 1887.
	Bettiah ...	1,007	74	349	Ditto
	Total ...	1,294	107	432	



STATEMENT NO. V.—Showing the protection afforded to infants in each town in the Province of Bihar during the year 1938-39—contd.

District.	Town.	Number of births during the year ending 31st March 1939.	Number of deaths amongst infants under one year during the year ending 31st March 1939.	Number of successful vaccinations amongst infants under one year during the year ending 31st March 1939.	Date of extension of Vaccination Act to town.
1	2	3	4	5	6
Muzaffarpur	Muzaffarpur	769	53	370	1st January 1886.
	Sitamarhi	295	40	63	1st April 1887.
	Hajipur	605	65	90	1st May 1890.
	Lalganj	314	40	40	1st April 1887.
	Total	1,983	198	563	
Darbhanga	Darbhanga	1,675	164	141	24th May 1884.
	Roserah	208	20	59	3rd January 1891.
	Samastipur	219	23	19	25th July 1910.
	Madhubani	462	25	28	1st April 1887.
	Total	2,564	232	247	
	Total of Tirhut Division.	8,177	741	2,134	
Monghyr	Monghyr	1,264	153	835	15th November 1882.
	Jamalpur	1,042	120	128	Ditto.
	Total	2,306	273	963	
Bhagalpur	Bhagalpur	1,050	61	484	15th February 1884, withdrawn on 16th October 1895 ; re-extended on 18th August 1898.
	Colgong	118	9	58	Ditto, re-extended on 19th December 1901.
	Total	1,068	70	542	
Purnea	Purnea	284	43	122	1st July 1887.
	Kishanganj	131	33	107	12th November 1892.
	Katihar	166	11	56	8th August 1910.
	Forbesganj	128	11	20	9th August 1912.
	Total	709	98	305	

STATEMENT NO. V.—Showing the protection afforded to infants in each town in the Province of Bihar during the year 1938-39—concl'd.

District.	Town.	Number of births during the year ending 31st March 1939.	Number of deaths amongst infants under one year during the year ending 31st March 1939.	Number of successful vaccinations amongst infants under one year during the year ending 31st March 1939.	Date of extension of Vaccination Act to town.
1	2	3	4	5	6
Santal Parganas ...	Sahibganj ...	106	8	143	1st May 1884.
	Deoghar ...	116	11	145	Ditto.
	Madhupur ...	62	7	105	22nd August 1910.
	Dumka ...	74	3	104	Notifications, dated the 9th April 1884, and 23rd August 1910.
	Total ...	358	29	497	
	Total of Bhagalpur Division.	4,441	470	2,307	
Hazaribagh ...	Hazaribagh ...	455	20	263	1st January 1885.
	Chatra ...	313	37	197	1st August 1885.
	Giridih ...	167	12	104	8th September 1910.
	Total ...	935	69	564	
Ranchi ...	Ranchi ...	859	42	972	1st April 1887.
	Lohardaga ...	158	13	191	25th June 1882.
	Total ..	1,017	55	1,163	
Palamau ...	Daltonganj ...	172	5	129	9th October 1890.
Manbhum ...	Purulia ...	468	30	180	1st January 1887.
	Raghunathpur ...	234	9	53	9th February 1894.
	Jhalda ...	168	19	148	9th July 1892.
	Dhanbad ...	474	31	89	5th December 1918.
	Total ...	1,344	89	470	
Singhbhum ...	Chaibassa ...	237	14	201	20th June 1892.
	Chakradharpur ...	172	15	92	13th January 1919.
	Jugsalai ...	214	6	137	1st April 1924.
	Jamshedpur ...	722	17	2,411	10th January 1933.
	Total ...	1,345	52	2,841	
	Total of Chota Nagpur Division.	4,813	270	5,167	
	Total for the Province	26,630	3,127	13,686	





*Provincial Statement showing the different kinds of lymph*

District.	Primary vaccination.											
	Direct from the calf.					With lanoline or glycerine lymph.					Arm-to-arm	
	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.	Total.	Successful.
1	2	3	4	5	6	7	8	9	10	11	12	13
Patna ... ..	...	...	...	...	...	67,865	66,827	349	689	98·47	...	...
Gaya ... ..	...	...	...	...	...	78,423	75,489	790	2,144	96·26	...	...
Shahabad ... ..	...	...	...	...	...	69,826	69,246	145	435	99·17	...	...
Saran ... ..	...	...	...	...	...	85,744	83,817	565	1,362	97·75	...	...
Champanan ... ..	...	...	...	...	...	69,784	68,973	394	417	98·84	...	...
Muzaffarpur ... ..	...	...	...	...	...	105,522	105,131	200	191	99·63	...	...
Darbhanga ... ..	...	...	...	...	...	105,801	105,667	106	28	99·87	...	...
Monghyr ... ..	...	...	...	...	...	62,419	62,139	69	211	99·55	...	...
Bhagalpur ... ..	...	...	...	...	...	60,915	60,183	293	439	98·79	...	...
Purnea ... ..	...	...	...	...	...	60,561	57,173	1,474	1,914	94·40	...	...
Santal Parganas ... ..	...	...	...	...	...	52,406	51,466	224	716	98·19	...	...
Hazaribagh ... ..	...	...	...	...	...	42,425	42,280	60	85	99·66	...	...
Ranchi ... ..	...	...	...	...	...	37,925	37,890	25	10	99·91	...	...
Palamau ... ..	...	...	...	...	...	18,402	17,878	107	417	97·15	...	...
Manbhum ... ..	...	...	...	...	...	49,681	48,702	285	694	98·03	...	...
Singhbhum ... ..	...	...	...	...	...	27,096	25,893	493	710	95·56	...	...
Total ... ..	...	...	...	...	...	994,795	978,754	5,579	10,462	98·39	...	...



URE II.

used and their rates of success during the year 1938-39.

Re-vaccination.																	
vaccination.			Direct from the calf.					With lanoline or glycerine lymph.					Arm-to-arm vaccination.				
Unsuccessful.	Unknown.	Percentage of successful cases.	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.
14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
...	...	...	...	...	...	...	...	18,680	6,434	5,981	6,265	34.44	...	...	...	...	...
...	...	...	...	...	...	...	...	18,737	6,388	2,336	10,013	34.09	...	...	...	...	...
...	...	...	...	...	...	...	...	5,168	3,521	667	980	68.13	...	...	...	...	...
...	...	...	...	...	...	...	...	12,150	4,707	4,520	2,923	38.74	...	...	...	...	...
...	...	...	...	...	...	...	...	25,552	15,008	11,190	9,354	42.21	...	...	...	...	...
...	...	...	...	...	...	...	...	104,993	26,058	22,687	56,248	24.21	...	...	...	...	...
...	...	...	...	...	...	...	...	23,064	10,463	7,755	4,846	45.36	...	...	...	...	...
...	...	...	...	...	...	...	...	50,988	1,397	3,243	46,348	2.74	...	...	...	...	...
...	...	...	...	...	...	...	...	63,623	25,763	11,517	26,343	40.49	...	...	...	...	...
...	...	...	...	...	...	...	...	23,173	3,642	3,119	16,412	15.71	...	...	...	...	...
...	...	...	...	...	...	...	...	18,484	3,684	3,739	11,061	19.93	...	...	...	...	...
...	...	...	...	...	...	...	...	7,948	3,589	1,575	2,784	45.15	...	...	...	...	...
...	...	...	...	...	...	...	...	21,047	12,493	5,364	3,184	59.89	...	...	...	...	...
...	...	...	...	...	...	...	...	16,311	7,726	3,838	4,747	47.36	...	...	...	...	...
...	...	...	...	...	...	...	...	43,715	21,966	10,314	11,435	50.25	...	...	...	...	...
...	...	...	...	...	...	...	...	42,336	7,059	28,218	7,059	16.67	...	...	...	...	...
...	...	...	...	...	...	...	...	505,969	159,904	126,063	220,002	31.60	...	...	...	...	...





GOVERNMENT OF BIHAR.

LOCAL SELF-GOVERNMENT DEPARTMENT.

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R E S O L U T I O N .

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*Patna, the 3rd May 1940.*

READ—

The Public Health Report for the year 1938 and the Vaccination Report for the year 1938-39.

1. *Vital statistics*.—The total number of births rose from 1,100,657 in the previous year to 1,116,178 in the year under review. The total number of deaths rose from 729,454 to 763,733, the increase being chiefly due to the occurrence of a comparatively larger number of deaths from fevers. The excess of birth over death rate was 10·9 as compared with 11·5 in the previous year. Registration of vital occurrences is compulsory only in municipal areas. A certain percentage of the reported vital occurrences was investigated and verified by the officers of the Public Health Department. The reporting agency for vital occurrences both in municipal and rural areas is the police though lately the Health Officers of some of the bigger municipalities have been appointed as Registrars of Births and Deaths and the responsibility of collection, tabulation and verification of vital occurrences has been transferred to them. This measure has brought about a distinct improvement in the registration of vital statistics in the municipal areas concerned. It is hoped that as an increasing number of municipalities appoint their own health officers they would be prepared to assume full responsibility for the collection of vital statistics independently of the police.

2. *Infant mortality*.—The rate of infant mortality rose from 115·9 in 1937 to 119·8 per thousand on the basis of actual births recorded during the year. The attention of the local bodies is again drawn to the importance of organising maternity and child welfare work in the areas under their control since this is the only effective step that can be taken to reduce child mortality. The system of training indigenous *dais* which has recently been taken up by some district boards is also a step in the right direction and is in need of further expansion.

3. *Cholera*.—The total number of deaths from cholera rose from 13,949 in the last year to 14,750 during the year under report though the death rate from the disease remained the same, viz., 0·4 per mille of population. The districts of Champaran and Darbhanga and the towns of Bettiah and Roserah recorded the highest number of deaths. To assist the local bodies in combating the disease Government deputed 24 doctors on epidemic duty to the infected areas and disinfectants and cholera vaccine were distributed by the Public Health Department. The number of doses of cholera vaccine issued during the year was 593,375 as against 640,000 during the previous year. Anti-cholera inoculation has now become a popular preventive measure and the faith of the public in its efficacy is on the increase.

4. *Bacteriophage*.—160,350 phials of choleraphage of 50 c. c. each were prepared during the year in the Bacteriophage Laboratory at Patna and 119,402 phials were distributed to various towns and districts of the province. Choleraphage was also prepared in ampules of which 1,100 were issued during the year. As a result of its extensive use during the last nine years, choleraphage has now fully established its utility both as a curative and as a prophylactic agent. It is now definitely found that its use as a curative agent gives the best results when used in the early stages of the attack and as a prophylactic agent it invariably cuts short the epidemics provided immediate



steps are taken to phage the total population exposed to infection. Typhoid phage on a small scale was also produced in the Bacteriophage Laboratory and certain researches on typhoid phage were carried out. The basic research on Bacteriophage was continued.

5. *Small-pox.*—The total number of deaths from small-pox decreased from 7,485 in the previous year to 5,977 during the year under review and the death rate was the same as last year, viz., 0·2 per mille of population. The low death rate is attributable to the immunity conferred by fairly extensive vaccination and revaccination. The highest death rate was registered in the districts of Palamau, Gaya and Saran. Among the towns Gaya, Muzaffarpur and Monghyr reported the highest death rates. 1,500,764 vaccination operations were performed in the province during the year under report of which 994,795 were cases of primary vaccination and 505,969 were cases of revaccination. Primary vaccination is compulsory in all the municipal towns and also in the rural areas of nine districts. The control of vaccination has been transferred to those local bodies which have initiated health organisation schemes and the health officers of these districts have been appointed Superintendents of Vaccination. The three special vaccination inspectors who were appointed by Government a few years ago to ensure better supervision of vaccination work continued to function, one under each of the three Assistant Directors of Public Health. Their services were specially utilised to render assistance to local bodies in the administration of vaccination in accordance with the provisions of the Vaccination Act in the compulsory areas and to induce people to accept vaccination operations in areas where small-pox broke out in epidemic forms. It is hoped that in the near future all the district boards of the province will take over the direct control of this important public health measure and provide facilities for vaccination and revaccination of the entire population which Government must agree with the Director of Public Health, is the only way of reducing the incidence of the disease. Although the total annual vaccination operations now amount to over a million and a half, the proportion of vaccinated persons in the province still remains far below the figure necessary to prevent epidemic outbreaks. It is regrettable that the public do not yet realise that periodical revaccinations are essential and that immunity conferred by primary vaccinations wears out in 5 to 7 years. The protection of infants also is still inadequate. The figures reported by the Director of Public Health indicate that nearly three-fourths of the infants under one year were left unvaccinated in rural areas and a little less than two-fifths in municipal areas.

6. *Plague.*—The number of deaths from plague rose from 1,470 in the previous year to 1,838 during the year under report. The death rate was the same as in the previous year, viz., 0·08 per thousand of population. Though the incidence of plague has greatly declined in the province in recent years the disease still persists in some of the districts. The district of Saran recorded the highest death rate followed by Muzaffarpur and Champaran. The town of Bettiah also remained infected almost throughout the year. To combat the disease a plague hospital was opened in January 1938 at Bettiah and a number of cases were treated with plague serum under Dr. Wagle of the Haffkine Institute of Bombay at the instance of the Public Health Department. Government appreciate the commendable assistance rendered by the Bettiah Raj in this connection. Dr. Wagle carried out the experiment of treating a number of cases with serum side by side with other cases treated with Iodine. It is interesting to note that deaths among the cases treated with serum were only about 27 per cent against over 56 per cent among the control cases treated with Iodine. Necessary preventive measures were taken by the Public Health Department of Government in other affected areas and Government epidemic doctors were detailed on plague duty to places where necessary.

7. *Kala-Azar.*—A note on the Kala-Azar position in Bihar by the Inspector-General of Civil Hospitals brought to light the fact that the Kala-Azar situation in North Bihar is acute. 92,000 cases of Kala-Azar were treated in the hospitals and dispensaries in 1937 and out of this 83,961 cases



were treated in the districts of North Bihar. As it was obvious that the incidence of the disease was high in these areas Government sanctioned a grant of Rs. 6,200 for establishing five Kala-Azar treatment centres in North Bihar viz., two in the Kishanganj Subdivision in the district of Purnea and one in each of the districts of Bhagalpur, Darbhanga and Muzaffarpur.

8. *Malaria*.—The high incidence of malaria during the year under report is reflected in the increased number of deaths from fevers which were 615,966 as against 584,873 in the previous year. A fact which is sometimes not fully realised is that over 80 per cent of the total deaths in the province is annually attributed to “fevers” and although a large number of deaths from other diseases in which fever is a prominent symptom are included under this group, it is believed that a large proportion of them is caused by malaria. As in the previous year North Bihar suffered heavily from malarial epidemics. The districts of Muzaffarpur, Purnea, Bhagalpur, Darbhanga, Gaya and Palamau recorded the highest death rates. All possible measures were taken by Government for combating the disease. Epidemic doctors of the Public Health Department were detailed for malaria duty whilst 3,262 lbs. of quinine was distributed free by the department in affected areas. A large number of anti-malarial centres and sub-centres were opened throughout the affected areas and Government contributed about half a lakh of rupees to local bodies for anti-malarial measures. With a view to popularise the indigenous systems of treatment Government further provided funds for the opening of two Ayurvedic and one Tibbi centres in the district of Muzaffarpur for anti-malarial treatment.

9. *School Medical Inspection*.—13,403 boys and 1,460 girls were examined during the year. 39·7 per cent of boys and 72·87 per cent of girls were found to be suffering from various forms of ailments such as enlarged tonsils, pyrrhoea, and dental caries, errors of refraction, malnutrition, etc. Major defects of eye and heart and pulmonary tuberculosis were also noticed in a few cases. As usual the particular defects from which the children were suffering were brought to the notice of their parents and guardians. Government trust that it will be realized that without the sincere co-operation of the latter no appreciable improvement in the health of students of school-going age can be effected.

10. *Nutrition Research*.—The nutrition research scheme was sanctioned by Government at the beginning of April 1938 and field work was started about the middle of the year. The object of the scheme is to suggest an adequate and balanced diet of a minimum cost and to advise on the nutritive value of each kind of foodstuff usually consumed by the people of Bihar. During the year under review a good deal of useful work was done by the Nutrition Officer and his staff. A diet survey was carried out in certain college hospitals and also among about 200 families in different parts of Jamshedpur and over 150 aboriginal families in the district of the Santal Parganas.

11. *Public Health Department Engineering Branch*.—A summary of the activities of this department relating to sanitary works in areas under the jurisdiction of the local bodies during the year is appended to the report.

12. The office of the Director of Public Health was held by Lieut.-Colonel S. L. Mitra throughout the year. Government desire to thank Colonel Mitra for the efficient way in which he carried on the administration of the department and they note with pleasure that the relations of the department with the local bodies continued to be cordial. Government have also noted the names of the subordinate officers commended in the report.

By order of the Governor of Bihar,

B. C. MUKHARJI,

*Secretary to Government.*







